



PRESENTED

TO

Stronsay South Public School


BY

JAMES COATS, JUNR., ESQ.,

Ferguslie House, Paisley.

1910.

No. ....

 Books must be handled carefully  
and kept clean.







SELECTIONS  
FROM THE WRITINGS OF  
HUGH MILLER







Henry L. Miller



SELECTIONS  
FROM THE WRITINGS OF  
HUGH MILLER

CHOSEN AND ARRANGED  
WITH INTRODUCTIONS AND EXPLANATORY NOTES

BY

W. M. MACKENZIE, M.A., F.S.A. (Scot.)

AUTHOR OF "HUGH MILLER: A CRITICAL STUDY," ETC.

EDITOR OF "MY SCHOOLS AND SCHOOLMASTERS," ETC.

*WITH ILLUSTRATIONS*

PAISLEY: ALEXANDER GARDNER

*Publisher by Appointment to the late Queen Victoria*

1908

LONDON

SIMPKIN, MARSHALL, HAMILTON, KENT & CO., LMD.

PRINTED BY ALEXANDER GARDNER, PAISLEY

## PREFATORY NOTE

HUGH MILLER'S collected works amount to fourteen volumes. Of these, the *Poems of a Journeyman Mason*, his first publication, displays no poetic qualities, and was never reprinted. The autobiography, *My Schools and Schoolmasters*, has a place apart, and has already appeared in this series. Of the others, more or less of the subject matter has become obsolete either through the advance of scientific knowledge or from the ephemeral nature of its interests. In these circumstances, it has seemed desirable that a collection of representative and characteristic passages should be made; and in doing so to draw upon all the volumes except the two specified above.

The passages chosen have been arranged primarily in the order of their biographical reference; but those which are closely related in subject have been grouped together. In one or two cases a paragraph or a phrase has, necessarily or advisedly, been dropped. Brief introductions and footnotes have been supplied, in order to impart some coherence to the whole; to explain, for the general reader, allusions or the bearing of a passage; and to freshen up and, as far as seems necessary, modernise the scientific matter. For fuller information on the main questions the reader is referred to *My Schools and Schoolmasters* (edited by W. M. M., 1905), Peter Bayne's *Life and Letters of Hugh Miller* (2 vols.), and my *Hugh Miller: A Critical Study*.

W. M. M.





# CONTENTS

PAGE

## I

FIRST DAYS AS A QUARRYMAN	-	-	-	-	-	1
---------------------------	---	---	---	---	---	---

## II

REVISITING CONON-SIDE	-	-	-	-	-	7
-----------------------	---	---	---	---	---	---

## III

A LETTER ON THE HERRING FISHERY	-	-	-	-	13
---------------------------------	---	---	---	---	----

## IV

THE FISHERMAN'S WIDOW	-	-	-	-	23
-----------------------	---	---	---	---	----

## V

A SCOTTISH TOWN OF THE EIGHTEENTH CENTURY	-	-	39
1 OLD CROMARTY	-	-	39
2 THE OLD CASTLE OF THE URQUHARTS	-	-	43
3 HEREDITARY SHERIFFSHIP	-	-	48

## VI

THE OLD PARISH SCHOOL	-	-	-	-	51
1 THE SCHOOL	-	-	-	-	51
2 THE HARD DOMINIE	-	-	-	-	54
3 THE COCK-FIGHT	-	-	-	-	60

## VII

THE CROMARTY JACOBS	-	-	-	-	63
---------------------	---	---	---	---	----

## VIII

IN THE CHAPEL-YARD OF ST. REGULUS	-	-	-	-	73
-----------------------------------	---	---	---	---	----

## IX

THE STORY OF SANDY WOOD	-	-	-	-	75
-------------------------	---	---	---	---	----

	PAGE
X	
SANDY WRIGHT AND THE PUIR ORPHAN - - - -	81
XI	
THE BURN OF EATHIE - - - - -	94
XII	
A TALE OF THE SECOND SIGHT - - - - -	105
XIII	
THE CENTENARY OF "THE FORTY-FIVE" - - - -	111
XIV	
THE OLD RED SANDSTONE - - - - -	114
XV	
THE DISCOVERY OF THE "WINGED-FISH" - - - -	128
XVI	
LETTER TO LORD BROUGHAM - - - - -	139
XVII	
SKETCHES OF THE GENERAL ASSEMBLY OF 1841 - -	148
XVIII	
THE DISRUPTION - - - - -	159
XIX	
THE WRECK OF THE <i>BETSEY</i> - - - - -	166
XX	
THE BONE-CAVE OF EIGG - - - - -	172
XXI	
THE FUNERAL OF CHALMERS - - - - -	181

## CONTENTS

ix.

PAGE

## XXII

THE LEASOWES - - - - - 185

## XXIII

IN THE HOME OF COWPER - - - - - 204

## XXIV

AT STRATFORD-ON-AVON - - - - - 211

## XXV

DUGALD STEWART - - - - - 220

## XXVI

MIRACLE VERSUS THE DEVELOPMENT HYPOTHESIS - - 226

## XXVII

THE OCEAN - - - - - 235

## XXVIII

THE COAL MEASURES - - - - - 236

## XXIX

SCOTTISH SERFS OF THE NINETEENTH CENTURY - - - 263

## XXX

THE SCENERY OF THE TRAP ROCKS - - - - - 267

## XXXI

THE ORIGIN OF THE BASS ROCK - - - - - 272

## XX XII

IN THE OOLITES OF SUTHERLAND AND EATHIE - - - 287

## XXVIII

SCOTLAND IN THE ICE AGE - - - - - 297

	PAGE
XXXIV	
THE RAISED BEACHES - - - - -	310
XXXV	
A SURVEY OF THE GEOLOGICAL PERIODS - - - - -	322
XXXVI	
THE MOSAIC VISION OF CREATION - - - - -	330
XXXVII	
THE ARCHITECT OF THE SCOTT MONUMENT - - - - -	335
XXXVIII	
AN UNSPOKEN SPEECH - - - - -	339
<hr/>	
INDEX, - - - - -	349



## LIST OF ILLUSTRATIONS

	PAGE
PORTRAIT OF HUGH MILLER - - - -	<i>Frontispiece</i>
MILLER'S FIRST QUARRY - - - -	2
COVA GREEN - - - -	23
THE OLD CAUSEWAY - - - -	40
THE CHAPEL-YARD OF ST. REGULUS - - - -	73
THE TOMBSTONE OF SANDY WOOD - - - -	75
IN EATHIE BURN - - - -	95
CASCADE IN EATHIE BURN - - - -	96
CROMARTY AND THE EAST SHORE - - - -	120
THE "WINGED-FISH" - - - -	132



# I

## FIRST DAYS AS A QUARRYMAN

[Hugh Miller was born at Cromarty on 10th October, 1802. In February, 1820, he was, at his own request, apprenticed to a stonemason—an occupation which locally included those of quarrying and hewing as well as building. Hence he is sometimes referred to as a quarryman,<sup>1</sup> though that was the least part of his business, and he finally specialized as a hewer. This wrongful emphasis is probably largely due to the chapter from which the following extract is taken, and the important place filled by a quarry in the researches of a geologist.

The description here given of his first day's experiences at quarry work is, of course, considerably idealized, and really represents what might have been the case had the observant and literary Hugh Miller of forty filled the shoes of an overgrown, dreamy youth of eighteen.<sup>2</sup> It must be accepted in the spirit of the rest of the chapter, which is intended to show working-men how "to make a right use of their eyes," while advising them to avoid mere political schemes for their improvement, and to seek that, and their pleasure too, in the cultivation of their minds.]

It was twenty years last February since I set out, a little before sunrise, to make my first acquaintance with a life of labour and restraint; and I have rarely had a heavier heart than on that morning. I was but a slim, loose-jointed boy

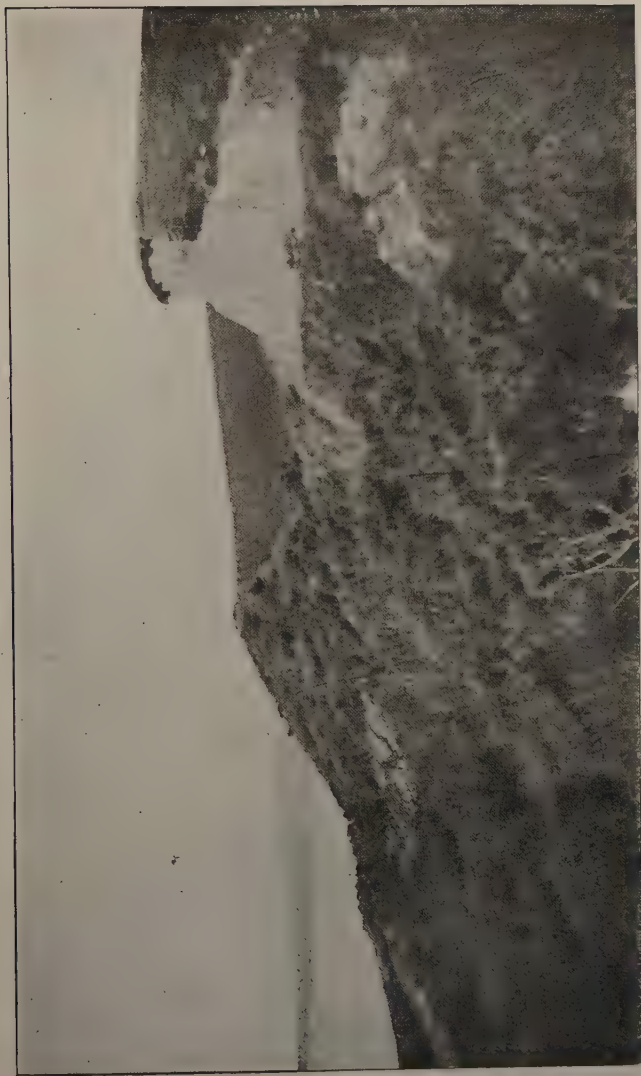
<sup>1</sup> "The wonderful Scotch quarryman, Hugh Miller."—Ray Lankester's *Extinct Animals*, p. 252.

<sup>2</sup> Cp., *My Schools and Schoolmasters*, pp. 155-6; and Bayne's *Life and Letters*, vol. i., pp. 53-6.

at the time, fond of the pretty intangibilities of romance, and of dreaming when broad awake; and, woful change! I was now going to work at what Burns has instanced, in his "Twa Dogs," as one of the most disagreeable of all employments—to work in a quarry. Bating the passing uneasiness occasioned by a few gloomy anticipations, the portion of my life which had already gone by had been happy beyond the common lot. I had been a wanderer among rocks and woods, a reader of curious books when I could get them, a gleaner of old traditional stories; and now I was going to exchange all my day-dreams, and all my amusements, for the kind of life in which men toil every day that they may be enabled to eat, and eat every day that they may be enabled to toil!

The quarry in which I wrought lay on the southern shore of a noble inland bay, or frith, rather, with a little clear stream on the one side, and a thick fir wood on the other. It had been opened in the Old Red Sandstone of the district, and was overtopped by a huge bank of diluvial clay, which rose over it in some places to a height of nearly thirty feet, and which at this time was rent and shivered, wherever it presented an open front to the weather, by a recent frost. A heap of loose fragments, which had fallen from above, blocked up the face of the quarry, and my first employment was to clear them away. The friction of the shovel soon blistered my hands, but the pain was by no means very severe, and I wrought hard and willingly, that I might see how the huge strata below, which presented so firm and unbroken a frontage, were to be torn up and removed. Picks, and wedges, and levers, were applied by my brother-workmen; and, simple and rude as I had been accustomed to regard these implements, I found I had much to learn in the way of using them. They all proved inefficient, however, and the workmen had to bore into one of the inferior strata,





#### MILLER'S FIRST QUARRY

"The quarry in which I wrought lay on the southern shore of a noble inland bay, or frith rather. . . . It had been opened in the Old Red Sandstone of the district, and was overtopped by a huge bank of diluvial clay."



and employ gunpowder. The process was new to me, and I deemed it a highly amusing one: it had the merit, too, of being attended with some such degree of danger as a boating or rock excursion, and had thus an interest independent of its novelty. We had a few capital shots: the fragments flew in every direction; and an immense mass of the diluvium came toppling down, bearing with it two dead birds, that in a recent storm had crept into one of the deeper fissures, to die in the shelter. I felt a new interest in examining them. The one was a pretty rock goldfinch, with its hood of vermilion, and its wings inlaid with the gold to which it owes its name, as unsoiled and smooth as if it had been preserved for a museum. The other, a somewhat rarer bird, of the woodpecker tribe, was variegated with light blue and a grayish yellow. I was engaged in admiring the poor little things, more disposed to be sentimental, perhaps, than if I had been ten years older, and thinking of the contrast between the warmth and jollity of their green summer haunts and the cold and darkness of their last retreat, when I heard our employer bidding the workmen lay by their tools. I looked up, and saw the sun sinking behind the thick fir wood beside us, and the long dark shadows of the trees stretching downwards towards the shore.

This was no very formidable beginning of the course of life I had so much dreaded. To be sure, my hands were a little sore, and I felt nearly as much fatigued as if I had been climbing among the rocks; but I had wrought and been useful, and had yet enjoyed the day fully as much as usual. It was no small matter, too, that the evening, converted, by a rare transmutation, into the delicious "blink of rest" which Burns so truthfully describes, was all my own. I was as light of heart next morning as any of my brother workmen. There had been a smart frost during the night, and the rime

lay white on the grass as we passed onwards through the fields; but the sun rose in a clear atmosphere, and the day mellowed, as it advanced, into one of those delightful days of early spring which give so pleasing an earnest of whatever is mild and genial in the better half of the year. All the workmen rested at mid-day, and I went to enjoy my half-hour alone on a mossy knoll in the neighbouring wood, which commands through the trees a wide prospect of the bay and the opposite shore. There was not a wrinkle on the water, nor a cloud in the sky, and the branches were as moveless in the calm as if they had been traced on canvas. From a wooded promontory that stretched half-way across the frith there ascended a thin column of smoke. It rose straight as the line of a plummet for more than a thousand yards, and then, on reaching a thinner stratum of air, spread out equally on every side, like the foliage of a stately tree. Ben Wyvis rose to the west, white with the yet unwasted snows of winter, and as sharply defined in the clear atmosphere as if all its sunny slopes and blue retiring hollows had been chiselled in marble. A line of snow ran along the opposite hills: all above was white, and all below was purple. They reminded me of the pretty French story, in which an old artist is described as tasking the ingenuity of his future son-in-law, by giving him as a subject for his pencil a flower-piece composed of only white flowers, of which the one-half were to bear their proper colour, the other half a deep purple hue, and yet all be perfectly natural; and how the young man resolved the riddle and gained his mistress, by introducing a transparent purple vase into the picture, and making the light pass through it on the flowers that were drooping over the edge. I returned to the quarry, convinced that a very exquisite pleasure may be a very cheap one, and that the busiest employments may afford leisure enough to enjoy it.

The gunpowder had loosened a large mass in one of the inferior strata, and our first employment, on resuming our labours, was to raise it from its bed. I assisted the other workmen in placing it on edge, and was much struck by the appearance of the platform on which it had rested. The entire surface was ridged and furrowed like a bank of sand that had been left by the tide an hour before. I could trace every bend and curvature, every cross hollow and counter ridge, of the corresponding phenomena; for the resemblance was no half resemblance—it was the thing itself; and I had observed it a hundred and a hundred times when sailing my little schooner in the shallows left by the ebb. But what had become of the waves that had thus fretted the solid rock, or of what element had they been composed? I felt as completely at fault as Robinson Crusoe did on his discovering the print of the man's foot on the sand. The evening furnished me with still further cause of wonder. We raised another block in a different part of the quarry, and found that the area of a circular depression in the stratum below was broken and flawed in every direction, as if it had been the bottom of a pool recently dried up, which had shrunk and split in the hardening. Several large stones came rolling down from the diluvium in the course of the afternoon. They were of different qualities from the sandstone below, and from one another; and, what was more wonderful still, they were all rounded and water-worn, as if they had been tossed about in the sea or the bed of the river for hundreds of years. There could not, surely, be a more conclusive proof that the bank which had enclosed them so long could not have been created on the rock on which it rested. No workman ever manufactures a half-worn article, and the stones were all half-worn! And if not the bank, why then the sandstone underneath? I was lost in conjecture, and

found I had food enough for thought that evening, without once thinking of the unhappiness of a life of labour.

The immense masses of diluvium which we had to clear away rendered the working of the quarry laborious and expensive, and all the party quitted it in a few days, to make trial of another that seemed to promise better. The one we left is situated, as I have said, on the southern shore of an inland bay—the Bay of Cromarty; the one to which we removed has been opened in a lofty wall of cliffs that overhangs the northern shore of the Moray Firth. I soon found I was to be no loser by the change. Not the united labours of a thousand men for more than a thousand years could have furnished a better section of the geology of the district than this range of cliffs. It may be regarded as a sort of chance dissection of the earth's crust. We see in one place the primary rock, with its veins of granite and quartz, its dizzy precipices of gneiss,<sup>1</sup> and its huge masses of hornblend;<sup>2</sup> we find the secondary rock in another, with its beds of sandstone and shale, its spars,<sup>3</sup> its clays, and its nodular limestones. We discover the still little-known but highly interesting fossils of the Old Red Sandstone in one deposition, we find the beautifully preserved shells and lignites<sup>4</sup> of the Lias<sup>5</sup> in another. There are the remains of two several creations at

<sup>1</sup> Rock of similar composition to granite, but with the crystals roughly arranged in layers.

<sup>2</sup> A greenish mineral frequently present, as veins or great sheets, in eruptive rocks.

<sup>3</sup> A popular name for veins of any bright crystalline mineral, such as crystalline carbonate of lime.

<sup>4</sup> Fossil wood (*brown coal*).

<sup>5</sup> A mainly clay series of rocks, associated with bands of richly fossiliferous limestone (Mesozoic (*middle-life*) or Secondary period). The patch here referred to is on the shore of the Moray Firth, near Eathie Burn, on the south side of the Black Isle.



once before us. The shore, too, is heaped with rolled fragments of almost every variety of rock—basalts,<sup>1</sup> iron-stones, hyperstenes,<sup>2</sup> porphyries,<sup>3</sup> bituminous shales,<sup>4</sup> and micaceous schists.<sup>5</sup> In short, the young geologist, had he all Europe before him, could hardly choose for himself a better field. I had, however, no one to tell me so at the time, for Geology had not yet travelled so far north; and so, without guide or vocabulary, I had to grope my way as I best might, and find out all its wonders for myself. But so slow was the process, and so much was I a seeker in the dark, that the facts contained in these few sentences were the patient gatherings of years.—(*The Old Red Sandstone.*)

<sup>1</sup> Eruptive rocks or lavas, dark green or brown in colour.

<sup>2</sup> A rock-forming mineral resembling hornblende.

<sup>3</sup> Rocks showing scattered, conspicuous crystals.

<sup>4</sup> Containing inflammable matter from which oils for burning are extracted.

<sup>5</sup> Rocks composed of distinct layers of mica and quartz. (*Gr. schizo*, I split.)

---

## II

### REVISITING CONON-SIDE

[The river Conon flows into the Cromarty Firth. Two seasons of Miller's apprenticeship (1821, 1822) were passed in the neighbourhood of its lower reaches, near Dingwall. They fill the greater part of three chapters of the autobiography.]

I HAD intended passing at least two days in the neighbourhood of Dingwall, where I proposed renewing an acquaintance, broken off for three-and-twenty years, with those bituminous



shales of Strathpeffer in which the celebrated mineral waters of the valley take their rise—the Old Red Conglomerate<sup>1</sup> of Brahan, the vitrified<sup>2</sup> fort of Knockfarrel, the ancient tower of Fairburn, above all, the pleasure-grounds of Conon-side. I had spent the greater portion of my eighteenth and nineteenth years in this part of the country; and I was curious to ascertain to what extent the man in middle life would verify the observations of the lad—to recall early incidents, revisit remembered scenes, return on old feelings, and see who were dead and who live among the casual acquaintances of nearly a quarter of a century ago. The morning of Wednesday rose dark with fog and rain, but the wind had fallen; and as I could not afford to miss seeing Conon-side, I sallied out under cover of an umbrella. I crossed the bridge, and reached the pleasure-grounds of Conon-house. The river was big in flood: it was exactly such a river Conon as I had lost sight of in the winter of 1821; and I had to give up all hope of wading into its fords, as I used to do early in the autumn of that year, and pick up the pearl mussels that lie so thickly among the stones at the bottom. I saw, however, amid a thicket of bushes by the river-side, a heap of broken shells, where some herd-boy had been carrying on such a pearl fishery as I had sometimes used to carry on in my own behalf so long before; and I felt it was just something to see it. The flood eddied past, dark and heavy, sweeping over bulwark and bank. The low-stemmed alders that rose on islet and mound seemed shorn of half their trunks in the tide; here and there an elastic branch bent to the current,

<sup>1</sup> A coarse rock, formerly known as *pudding-stone*, made up of the compacted pebbles and boulders of an ancient beach.

<sup>2</sup> Having the surface of the stones reduced to a glassy condition by fire. Knockfarrel is a hill overlooking Strathpeffer.

and rose and bent again; and now a tuft of withered heath came floating down, and now a solid wreath of foam. How vividly the past rose up before me!—boyish day-dreams forgotten for twenty years—the fossils of an early formation of mind, produced at a period when the atmosphere of feeling was warmer than now, and the immaturities of the mental kingdom grew rank and large, like the ancient *Cryptogamiæ*,<sup>1</sup> and bore no specific resemblance to the productions of a present time. I had passed in the neighbourhood the first season I anywhere spent among strangers, at an age when home is not a country, nor a province even, but simply a little spot of earth inhabited by friends and relatives; and the rude verses, long forgotten, in which my joy had found vent when on the eve of returning to that home—a home little more than twenty miles away—came chiming as freshly into my memory as if scarce a month had passed since I had composed them beside the Conon.<sup>2</sup>

Three-and-twenty years form a large portion of the short life of man—one-third, as nearly as can be expressed in unbroken numbers, of the entire term fixed by the psalmist, and full one-half, if we strike off the twilight periods of childhood and immature youth, and of senectitude weary of its toils. I found curious indications among the grounds of Conon-side of the time that had elapsed since I had last seen them. There was a rectangular pond in a corner of a moor, near the public road, inhabited by about a dozen voracious, frog-eating pike, that I used frequently to visit. The water in the pond was exceedingly limpid; and I could watch from the banks every motion of the hungry, energetic inmates. And now I struck off from the river-side by a narrow, tangled

<sup>1</sup> Evergreens.

<sup>2</sup> The verses here referred to are introduced into *My Schools and Schoolmasters*, chapter tenth (Miller).

pathway, to visit it once more. I could have found out the place blindfold : there was a piece of flat brown heath that stretched round its edges, and a mossy slope that rose at its upper side, at the foot of which the taste of the proprietor had placed a rustic chair. The spot, though itself bare and moory, was nearly surrounded by wood, and looked like a clearing in an American forest. There were lines of graceful larches on two of its sides, and a grove of vigorous beeches that directly fronted the setting sun on the third ; and I had often found it a place of delightful resort, in which to saunter alone in the calm summer evenings, after the work of the day was over. Such was the scene as it existed in my recollection. I came up to it this day through dripping trees, along a neglected pathway ; and found, for the open space and rectangular pond, a gloomy patch of water in the middle of a tangled thicket, that rose some ten or twelve feet over my head. What had been bare heath a quarter of a century before had become a thick wood ; and I remembered that when I had been last there, the open space had just been planted with forest-trees, and that some of the taller plants rose half-way to my knee. Human life-times, as now measured, are not intended to witness both the seed-times and the harvests of forests—both the planting of the sapling and the felling of the huge tree into which it has grown ; and so the incident impressed me strongly. It reminded me of the sage Shalum in Addison's antediluvian tale, who became wealthy by the sale of his great trees, two centuries after he had planted them. I pursued my walk, to revisit another little patch of water, which I had found so very entertaining a volume three-and-twenty years previous, that I could still recall many of its lessons ; but the hand of improvement had been busy among the fields of Conon-side ; and when I came to the spot which it had occupied, I found

but a piece of level arable land, bearing a rank swathe of grass and clover.<sup>1</sup>

Not a single individual did I find on the farm who had been there twenty years before. I entered into conversation with one of the ploughmen, apparently a man of some intelligence; but he had come to the place only a summer or two previous, and the names of most of his predecessors sounded unfamiliar in his ears: he knew scarce anything of the old laird or his times, and but little of the general history of the district. The frequent change of servants incident to the large-farm system has done scarce less to wear out the oral antiquities of the country than has been done by its busy ploughs in obliterating antiquities of a more material cast. The mythologic legend and traditionary story have shared the same fate, through the influence of the one cause, which has been experienced by the sepulchral tumulus and the ancient encampment under the operations of the other. I saw in the pillars and archways of the farm-steading some of the hewn stones bearing my own mark—an anchor, to which I used to attach a certain symbolical meaning; and I pointed them out to the ploughman. I had hewn these stones, I said, in the days of the old laird, the grandfather of the present proprietor. The ploughman wondered how a man still in middle life could have such a story to tell. I must surely have begun work early in the day, he remarked, which was perhaps the best way for getting it soon over. I remembered having seen similar markings on the hewn-work of ancient castles, and of indulging in, I daresay, idle enough speculations regarding what was doing at court and in the field, in Scotland and elsewhere, when the old long-departed mechanics had been engaged in their work. When this mark was

<sup>1</sup> For a description of this pond see *My Schools and Schoolmasters*, chapter tenth (Miller).

affixed, I have said, all Scotland was in mourning for the disaster at Flodden,<sup>1</sup> and the folk in the work-shed would have been, mayhap, engaged in discussing the supposed treachery of Home, and in arguing whether the hapless James had fallen in battle, or gone on a pilgrimage to merit absolution for the death of his father. And when this other more modern mark was affixed, the Gowrie conspiracy<sup>2</sup> must have been the topic of the day, and the mechanics were probably speculating—at worst not more doubtfully than the historians have done after them—on the guilt or innocence of the Ruthvens. It now rose curiously enough in memory, that I was employed in fashioning one of the stones marked by the anchor—a corner stone in a gate pillar—when one of my brother-apprentices entered the work-shed, laded with a bundle of newly sharpened irons from the smithy, and said he had just been told by the smith that the great Napoleon Bonaparte was dead. I returned to the village of Conon Bridge, through the woods of Conon House. The day was still very bad: the rain pattered thick on the leaves, and fell incessantly in large drops on the pathways. There is a solitary, picturesque burying-ground on a wooded hillock beside the river, with thick dark woods all around it—one of the two burying-grounds of the parish of Urquhart—which I would fain have visited, but the swollen stream had risen high aground, converting the hillock into an island, and forbade access. I had spent many an hour among the tombs. They are few and scattered, and of the true antique cast—roughened with death's heads, and cross-bones, and rudely sculptured armorial bearings; and on a broken wall, that marked where the ancient chapel once had stood, there might be seen, in the year 1821, a small, badly

<sup>1</sup> 1513.

<sup>2</sup> 1600. The Earl of Gowrie (Ruthven) and his brother are alleged to have tried to confine James VI. The whole matter remains a mystery.



cut sun-dial, with its iron gnomon wasted to a saw-edged film, that contained more oxide than metal. The only fossils described in my present chapter are fossils of mind; and the reader will, I trust, bear with me should I produce one fossil more of this somewhat equivocal class. It has no merit to recommend it—it is simply an organism of an immature intellectual formation, in which, however, as in the Carboniferous period, there was provision made for the necessities of an after time.<sup>1</sup> If a young man born on the wrong side of the Tweed for *speaking* English, is desirous to acquire the ability of *writing* it, he should by all means begin by trying to write it in verse.—(*The Cruise of the Betsey.*)

<sup>1</sup> These remarks refer to the poem “On Seeing a Sun-Dial in a Church-yard,” which was introduced here when the chapters were first published in the *Witness*, but, having been afterwards inserted in the tenth chapter of *My Schools and Schoolmasters*, is not here reproduced (Miller).

---

### III

## A LETTER ON THE HERRING FISHERY

[The circumstances under which Miller published his *Poems of a Journeyman Mason* (1829), specimens of which are given in the autobiography, brought him into touch with Mr. Carruthers, editor of the *Inverness Courier*, “the biographer of Pope,” and a gentleman of some literary standing. Such an association was most helpful to Miller, and at the Editor’s request he wrote for the *Courier* a series of five letters on the *Herring Fishery in the Moray Firth*. Thus Miller began to make literary use of his practical knowledge of natural history, which was so serviceable to him, later, in his own special field. The letters appeared during the summer of 1829, and were afterwards published as a pamphlet.

## 14 A LETTER ON THE HERRING FISHERY

Miller records in the autobiography (ed. 1905, p. 434), with natural pride, that no less a person than Sir Walter Scott, tried, too late, to procure a copy.]

*To the Editor of the "Inverness Courier."*

SIR,—In the latter end of August, 1819, I went out to the fishing then prosecuted on Guillian in a Cromarty boat. The evening was remarkably pleasant. A low breeze from the west scarcely ruffled the surface of the frith, which was varied in every direction by unequal stripes and patches of a dead calmness. The bay of Cromarty, burnished by the rays of the declining sun until it glowed like a sheet of molten fire, lay behind, winding in all its beauty beneath purple hills and jutting headlands; while before stretched the wide extent of the Moray Frith, speckled with fleets of boats which had lately left their several ports, and were now all sailing in one direction. The point to which they were bound was the bank of Guillian, which, seen from betwixt the Sutors, seemed to verge on the faint blue line of the horizon; and the fleets which had already arrived on it had, to the naked eye, the appearance of a little rough-edged cloud resting on the water. As we advanced, this cloud of boats grew larger and darker; and soon after sunset, when the bank was scarcely a mile distant, it assumed the appearance of a thick leafless wood covering a low brown island.

The tide, before we left the shore, had risen high on the beech, and was now beginning to recede. Aware of this, we lowered sail several hundred yards to the south of the fishing ground; and after determining the point from whence the course of the current would drift us direct over the bank, we took down the mast, cleared the hinder part of the boat, and began to cast out the nets. Before the Inlaw appeared in the line of the Gaelic Chapel (the landmark by which the

southernmost extremity of Guillian is ascertained), the whole drift was thrown overboard and made fast to the swing. Night came on. The sky assumed a dead and leaden hue. A low dull mist roughened the outline of the distant hills, and in some places blotted them out from the landscape. The faint breeze that had hitherto scarcely been felt now roughened the water, which was of a dark blue colour, approaching to black. The sounds which predominated were in unison with the scene. The almost measured dash of the waves against the sides of the boat and the faint rustle of the breeze were incessant; while the low dull moan of the surf breaking on the distant beach, and the short sudden cry of an aquatic fowl of the diving species, occasionally mingled with the sweet though rather monotonous notes of a Gaelic song. "It's ane o' the Gairloch fishermen," said our skipper; "puir folk, they're aye singin' an' thinkin' o' the Hielands."

Our boat, as the tides were not powerful, drifted slowly over the bank. The buoys stretched out from the bows in an unbroken line. There was no sign of fish, and the boatmen, after spreading the sail over the beams, laid themselves down on it. The scene was at the time so new to me, and, though of a somewhat melancholy cast, so pleasing that I stayed up. A singular appearance attracted my notice. "How," said I to one of the boatmen, who a moment before had made me an offer of his greatcoat—"how do you account for that calm silvery spot on the water, which moves at such a rate in the line of our drift?" He started up. A moment after he called on the others to rise, and then replied: "That moving speck of calm water covers a shoal of herrings. If it advances a hundred yards farther in that direction, we shall have some employment for you." This piece of information made me regard the little patch, which, from the light it caught, and the blackness of the surrounding water, seemed



## 16 A LETTER ON THE HERRING FISHERY

a bright opening in a dark sky, with considerable interest. It moved onward with increased velocity. It came in contact with the line of the drift, and three of the buoys immediately sunk. A few minutes were suffered to elapse, and we then commenced hauling. The two strongest of the crew, as is usual, were stationed at the cork, the two others at the ground baulk. My assistance, which I readily tendered, was pronounced unnecessary, so I hung over the gunwale watching the nets as they approached the side of the boat. The three first, from the phosphoric light of the water, appeared as if bursting into flames of a pale green colour. The fourth was still brighter, and glittered through the waves while it was yet several fathoms away, reminding me of an intensely bright sheet of the aurora borealis. As it approached the side, the pale green of the phosphoric matter appeared as if mingled with large flakes of snow. It contained a body of fish. "A white horse! a white horse!" exclaimed one of the men at the cork baulk; "lend us a haul." I immediately sprung aft, laid hold on the rope, and commenced hauling. In somewhat less than half an hour we had all the nets on board, and rather more than twelve barrels of herrings.

The night had now become so dark, that we could scarcely discern the boats which lay within gunshot of our own; and we had no means of ascertaining the position of the bank except by sounding. The lead was cast, and soon after the nets shot a second time. The skipper's bottle was next produced, and a dram of whisky sent round in a tin measure containing nearly a gill. We then folded down the sail, which had been rolled up to make way for the herrings, and were soon fast asleep.

Ten years have elapsed since I laid myself down on this couch, and I was not then so accustomed to a rough bed as I am now, when I can look back on my wanderings as a

journeyman mason over a considerable part of both the Lowlands and Highlands of Scotland. About midnight I awoke quite chill, and all over sore with the hard beams and sharp rivets of the boat. Well, thought I, this is the tax I pay for my curiosity. I rose and crept softly over the sail to the bows, where I stood, and where, in the singular beauty of the scene, which was of a character as different from that I had lately witnessed as is possible to conceive, I soon lost all sense of every feeling that was not pleasure. The breeze had died into a perfect calm. The heavens were glowing with stars, and the sea, from the smoothness of the surface, appeared a second sky, as bright and starry as the other, but with this difference, that all its stars appeared comets. There seemed no line of division at the horizon, which rendered the illusion more striking. The distant hills appeared a chain of dark thundery clouds sleeping in the heavens. In short, the scene was one of the strangest I ever witnessed; and the thoughts and imaginations which it suggested were of a character as singular. I looked at the boat as it appeared in the dim light of midnight, a dark irregularly-shaped mass; I gazed on the sky of stars above, and the sky of comets below, and imagined myself in the centre of space, far removed from the earth and every other world—the solitary inhabitant of a planetary fragment. This illusion, too romantic to be lasting, was dissipated by an incident which convinced me that I had not yet left the world. A crew of south-shore fishermen, either by accident or design, had shot their nets right across those of another boat, and, in disentangling them, a quarrel ensued. Our boat lay more than half a mile from the scene of contention, but I could hear without being particularly attentive that on the one side there were terrible threats of violence immediate and bloody, and on the other, threats of the still more terrible

## 18 A LETTER ON THE HERRING FISHERY

pains and penalties of the law. In a few minutes, however, the entangled nets were freed, and the roar of altercation gradually sunk into a silence as dead as that which had preceded it.

An hour before sunrise, I was somewhat disheartened to find the view on every side bounded by a dense low bank of fog, which hung over the water, while the central firmament remained blue and cloudless. The neighbouring boats appeared through the mist huge misshapen things, manned by giants. We commenced hauling, and found in one of the nets a small rock cod and a half-starved whiting, which proved the whole of our draught. I was informed by the fishermen that even when the shoal is thickest on the Guillian, so close does it keep by the bank that not a solitary herring is to be caught a gunshot from the edge on either side.

We rowed up to the other boats, few of whom had been more successful in their last haul than ourselves, and none equally so in the first. The mist prevented us from ascertaining, by known landmarks, the position of the bank, which we at length discovered in a manner that displayed much of the peculiar art of the fishermen. The depth of the water, and the nature of the bottom, showed us that it lay to the south. A faint tremulous heave of the sea, which was still calm, was the only remaining vestige of the gale which had blown from the west in the early part of the night, and this heave, together with the current, which at this stage of the flood runs in a south-western direction, served as our compass. We next premised how far our boat had drifted down the frith with the ebb-tide, and how far she had been carried back again by the flood. We then turned her bows in the line of the current, and in rather less than half an hour

were, as the lead informed us, on the eastern extremity of Guillian, where we shot our nets for the third time.

Soon after sunrise the mist began to dissipate, and the surface of the water to appear for miles around roughened as if by a smart breeze, although there was not the slightest breath of wind at the time. "How do you account for that appearance?" said I to one of the fishermen. "Ah, lad, that is by no means so favourable a token as the one you asked me to explain last night. I had as lief see the *Bhodry-more*." "Why, what does it betoken? and what is the *Bhodry-more*?" "It betokens that the shoal have spawned, and will shortly leave the frith; for when the fish are sick and weighty they never rise to the surface in that way;—but have you never heard of the *Bhodry-more*?" I replied in the negative. "Well, but you shall." "Nay," said another of the crew, "leave that for our return; do you not see the herrings playing by thousands round our nets, and not one of the buoys sinking in the water? There is not a single fish swimming so low as the upper baulks of our drift. Shall we not shorten the buoy-ropes, and take off the sinkers?" This did not meet the approbation of the others, one of whom took up a stone and flung it in the middle of the shoal. The fish immediately disappeared from the surface for several fathoms round. "Ah, there they go," he exclaimed, "if they go but low enough; four years ago I startled thirty barrels of light fish into my drift just by throwing a stone among them."

The whole frith at this time, so far as the eye could reach, appeared crowded with herrings; and its surface was so broken by them as to remind one of the pool of a waterfall. They leaped by millions a few inches into the air, and sunk with a hollow plumping noise, somewhat resembling the dull rippling sound of a sudden breeze; while to the eye there

was a continual twinkling, which, while it mocked every effort that attempted to examine in detail, showed to the less curious glance like a blue robe sprinkled with silver. But it is not by such comparisons that so singular a scene is to be described so as to be felt. It was one of those which, through the living myriads of creation, testify of the infinite Creator.

About noon we hauled for the third and last time, and found nearly eight barrels of fish. I observed when hauling that the natural heat of the herring is scarcely less than that of quadrupeds or birds; that when alive its sides are shaded by a beautiful crimson colour which it loses when dead; and that when newly brought out of the water, it utters a sharp, faint cry somewhat resembling that of a mouse. We had now twenty barrels on board. The *easterly har*, a sea-breeze so called by fishermen, which in the Moray Frith, during the summer months and first month of autumn, commonly comes on after ten o'clock A.M., and falls at four o'clock P.M., had now set in. We hoisted our mast and sail, and were soon scudding right before it.

The story of the *Bhodry-more*, which I demanded of the skipper as soon as we had trimmed our sails, proved interesting in no common degree, and was linked with a great many others. The *Bhodry-more*<sup>1</sup> is an active, mischievous fish of the whale species, which has been known to attack and even founder boats. About eight years ago, a very large one passed the town of Cromarty through the middle of the bay, and was seen by many of the townsfolks leaping out of the water in the manner of a salmon, fully to the height of a boat's mast. It appeared about thirty feet in length. This animal may almost be regarded as the mermaid of modern times: for the fishermen deem it to have fully as much of

<sup>1</sup> Properly, perhaps, the muscous whale (Miller).



the demon as of the fish. There have been instances of its pursuing a boat under sail for many miles, and even of its leaping over it from side to side. It appears, however, that its habits and appetites are unlike those of the shark; and that the annoyance which it gives the fisherman is out of no desire of making him its prey, but from its predilection for amusement. It seldom meddles with the boat when at anchor, but pursues one under sail, as a kitten would a rolling ball of yarn. The large physalus whale is comparatively a dull, sluggish animal; occasionally, however, it evinces a partiality for the amusements of the *Bhodry-more*. Our skipper said, that when on the Caithness coast, a few years before, an enormous fish of the species kept direct in the wake of his boat for more than a mile, frequently rising so near the stern as to be within reach of the boat-hook. He described the expression of its large goggle eyes as at once frightful and amusing; and so graphic was his narrative that I could almost paint the animal stretching out for more than sixty feet behind the boat, with his black marble-looking skin and cliff-like fins. He at length grew tired of its gambols, and with a sharp fragment of rock struck it between the eyes. It sunk with a sudden plunge, and did not rise for ten minutes after, when it appeared a full mile a-stern. This narrative was but the first of I know not how many, of a similar cast, which presented to my imagination the *Bhodry-more* whale and hun-fish in every possible point of view. The latter, a voracious formidable animal of the shark species, frequently makes great havoc among the tackle with which cod and haddock are caught. Like the shark, it throws itself on its back when in the act of seizing its prey. The fishermen frequently see it lying motionless, its white belly glittering through the water, a few fathoms from the boat's side, employed in stripping off every fish from their

*Don & Pink*

hooks as the line is drawn over it. This formidable animal is from six to ten feet in length, and formed like the common shark.

One of the boatmen's stories, though somewhat in the Munchausen style, I shall take the liberty of relating. Two Cromarty men, many years ago, were employed on a fine calm day in angling for coal-fish and rock-cod, with rods and hand-lines. Their little skiff rode to a large oblong stone, which served for an anchor, nearly opposite a rocky spire termed the chapel, three miles south of Shandwick. Suddenly the stone was raised from the bottom with a jerk, and the boat began to move. "What can this mean?" exclaimed the elder of the men, pulling in his rod, "we have surely broken loose; but who could have thought that there ran such a current here!" The other, a young daring fellow, John Clark by name, remarked in reply, that the apparent course of the skiff was directly contrary to that of the current. The motion, which was at first gentle, increased to a frightful velocity; the rope a-head was straitened until the very stem cracked; and the sea rose upon either bows into a furrow that nearly overtopped the gunwale. "Old man," said the young fellow, "didst thou ever see the like o' that!" "Guid save us, boy," said the other, "cut, cut the swing." "Na, na, bide a wee first, I manna skaith<sup>1</sup> the rape: didst thou ever see the like o' that!" In a few minutes, according to the story, they were dragged in this manner nearly two miles, when the motion ceased as suddenly as it had begun, and the skiff rode to the swing as before.

The scenes exhibited on the shores of Cromarty, during the busy season of the fishing, afford nearly as much scope for description, though of a different character, as those in which the occupations of the fishermen mingle with the

<sup>1</sup> Spoil.







#### COVA-GREEN

"A few hundred yards from where the headland terminates towards the south, there is a little rocky bay, which has been known for ages to the sealaring men of the town as the Cova-Green" (*Scenes and Legends*)

sublime scenes of the Moray Frith. But this description I will not attempt. Your readers must have already anticipated it. If not, let them picture to themselves the shores of a seaport town crowded with human figures, and its harbour with boats and vessels of trade. Let them imagine the bustle of the workshop combining with the confusion of the crowded fair! You, Mr. Editor, who have seen Holbein's Dance of Death, would perhaps not question the soundness of the imagination that would body forth so busy a scene as the dance of commerce. Sailors, fishermen, curers, mechanics, all engaged, lead up the ball amid heaps of fish that glitter to the sun, tiers of casks and pyramids of salt. Hark to the music! It is a wild combination of irregular sounds—the hammering of mechanics, the rolling of casks, the rattling of carts, and the confused hum of a thousand voices.—I am, sir, your obedient servant, M.—(*Tales and Sketches.*)

---

IV

THE FISHERMAN'S WIDOW

SOME time early in the reign of Queen Anne, a fishing yawl, after vainly labouring for hours to enter the Bay of Cromarty during a strong gale from the west, was forced at nightfall to relinquish the attempt, and take shelter in the Cova-Green.<sup>1</sup> The crew consisted of but two persons—an old fisherman and his son. Both had been thoroughly drenched by the spray,

<sup>1</sup> A cove or small opening on the east side of the North Sutor, at the mouth of the Cromarty Firth.

and chilled by the piercing wind, which, accompanied by thick snow-showers, had blown all day through the opening from off the snowy top of Ben-Wyvis; and it was with no ordinary satisfaction that, as they opened the bay on their last tack, they saw the red gleam of a fire flickering from one of the caves, and a boat drawn up on the beach.

"It must be some of the Tarbat fishermen," said the old man, "wind bound like ourselves; but wiser than us, in having made provision for it. I'll feel willing enough to share their fare with them for the night."

"But see," remarked the younger, "that there be no unwillingness on the other side. I am much mistaken if that be not the boat of my cousins the Macinlas! Hap what may, however, the night is getting worse, and we have no choice of quarters. Hard up your helm, father, or we shall barely clear the Skerries; there now—every nail an anchor!"

He leaped ashore, carrying with him the small hawser attached to the stem, known technically as the *swing*, which he wound securely round a jutting crag, and then stood for a few seconds until the old man, who moved but heavily along the thwarts, had come up to him. All was comparatively calm under the lee of the precipices; but the wind was roaring fearfully in the woods above, and whistling amid the furze and ivy of the higher cliffs; and the two boatmen as they entered the cave could see the flakes of a thick snow-shower, that had just begun to descend, circling round and round in the eddy.

The place was occupied by three men—two of them young, and rather ordinary-looking persons; the third, a grey-headed old man, apparently of great muscular strength, though long past his prime, and of a peculiarly sinister cast of countenance. A keg of spirits, which was placed before them, served as a table. There were little drinking measures of tin on it; and

the mask-like, stolid expressions of the two younger men showed that they had been indulging freely. The elder was comparatively sober. A fire, composed mostly of fragments of wreck and drift wood, threw up its broad, cheerful flame towards the roof; but so spacious was the cavern that, except where here and there a whiter mass of stalactites, or bolder projection of the cliff, stood out from the darkness, the light seemed lost in it. A dense body of smoke, which stretched its blue level surface from side to side and concealed the roof, went rolling onwards like an inverted river. On the entrance of the fishermen, the three boatmen within started to their feet, and one of the younger, laying hold of the little cask, pitched it hurriedly into a dark corner of the cave.

“Ay, ye do well to hide it, Gibbie!” exclaimed the savage-looking old man, in a bitter ironical tone, as he recognised the intruders; “here are your good friends, William and Ernest Beth come to see if they cannot rob and maltreat us a second time. Well! they had better try.”

There could not be a more luckless meeting. For years before had the crew of the little fishing-yawl been regarded with the bitterest hatred by the temporary inmates of the cave; nor was old Eachen of Tarbat one of the class whose resentments may be safely slighted. He had passed the first thirty years of his life among the buccaneers of South America; he had been engaged in its latter seasons among the smugglers, who even at this early period infested the eastern coasts of Scotland; and Eachen, of all his associates, whether smugglers or buccaneers, had ever been deemed one of the fiercest and most unscrupulous. On his return from America, the country was engaged in one of its long wars with Holland, and William Beth, the elder fisherman, who had served in the English fleet, was lying in a Dutch prison

at the time, and a report had gone abroad that he was dead. He had inherited some little property from his father in the neighbouring town—a house and a little field—which, in his absence, was held by an only sister; who, on the report of his death, was of course regarded as a village heiress, and whose affections, in that character, Eachen of Tarbat had succeeded in engaging. They were married, but the marriage had turned out singularly ill; Eachen was dissipated and selfish, and of a harsh, cruel temper; and it was the fate of his poor wife, after giving birth to two boys—the younger inmates of the cave—to perish in the middle of her days, a care-worn, heart-broken creature. Her brother William had returned from Holland shortly before, and on her death claimed and recovered his property from her husband; and from that hour Eachen of Tarbat had regarded him with the bitterest malice. A second cause of dislike, too, had but lately occurred. Earnest Beth, William's only son, and one of his cousins, the younger son of Eachen, had both fixed their affections on a lovely young girl, the toast of a neighbouring parish; and Ernest, a handsome and high-spirited young man, had proved the successful lover. On returning with his mistress from a fair, only a few weeks previous to this evening, he had been waylaid and grossly insulted by his two cousins; and the insult he might perhaps have borne for the sake of what they seemed to forget—his relationship to their mother—but there was another whom they also insulted, and that he could not bear; and as they were mean enough to take odds against him on the occasion, he had beaten the two spiritless fellows that did so.

The old fisherman had heard the ominous remark of the savage as if he heard it not. "We have not met for many years, Eachen," he said—"not since the death of my poor sister, when we parted such ill friends; but we are shortlived

creatures ourselves, surely our anger should be shortlived too. I have come to crave from you a seat by your fire."

"It was no wish of mine, William Beth," said Eachen, "that we should ever meet; but there is room enough for us all beside the fire."

He resumed his seat; the two fishermen took their places fronting him, and for some time neither party exchanged a word.

"This is but a gousty<sup>1</sup> lodging-place," at length remarked the old fisherman, looking round him; "but I have seen worse, and I wish the folk at hame kent we were half sae snug."

The remark seemed addressed to no one in particular, and there was no reply. In a second attempt he addressed himself to the old man.

"It has vexed me, Eachen," he said, "that our young folk, were it but for my sister's sake, should not be on mair friendly tarms; an' we ourselves too—why suld we be enemies?" The old man, without deigning a reply, knit his grey shaggy brows, and looked doggedly at the fire.

"Nay, now," continued the fisherman, "we are getting auld men now, Eachen, an' wald better bury our hard thoughts o' ane anither afore we come to be buried oursels."

Eachen fixed his keen scrutinizing glance on the speaker, there was a tremulous motion of the upper lip as he withdrew it, and a setting of the teeth; but the tone of his reply savoured more of sullen indifference than of passion.

"William Beth," he said, "ye have tricked my boys out o' the bit property that suld have come to them by their mither; it's no so long since they barely escaped being murdered by your son. What more want you? But, mayhap, ye think it better that the time should be passed in

<sup>1</sup> Windy.



making boss<sup>1</sup> professions of good-will than employed in clearing off an old score."

"Ay," hiccuped out the elder of the two sons, "the houses might come my way then; an' if Helen Henry were to lose her ae joe,<sup>2</sup> the tither might hae the better chance."

"Look ye, uncle," exclaimed the younger fisherman, "your threat might be spared. Our little property was my grandfather's, and of right descended to his only son. As for the affair at the tryst, I dare either of my cousins to say the quarrel was of my seeking. I have no wish to raise my hand against the sons or the husband of my aunt; but if forced to it, you will find that neither my father nor myself are wholly at your mercy." He rose to his feet as he spoke.

"Whisht, Ernest," said the old fisherman calmly; "sit down; your uncle maun hae ither thoughts. It is now twenty years, Eachen," he continued, "since I was called to my sister's death-bed. You cannot forget what passed there. There had been grief and hunger beside that bed. I'll no say you were willingly unkind. Few folk are that but when they have some purpose to serve by it, and you could have none; but you laid no restraint on a harsh temper, and none on a craving habit, that forgets everything but itself, and sae my poor sister perished in the middle of her days, a wasted, heart-broken thing. I have nae wish to hurt you. We baith passed our youth in a bad school, and I owre often feel I havena unlearned a' my own lessons to wonder that you suldna have unlearned a' yours. But we're getting old men, Eachen; why suld we die fools? and fools we maun die, if we die enemies."

"You are likely in the right," said the stern old man. "But ye were aye a luckier man than me, William—luckier for this warld, I'm sure—maybe luckier for the next. I had

<sup>1</sup> Empty.

<sup>2</sup> Sweetheart.



aye to seek, and that without finding, the good that came in your gate o' itself'. Now that age is coming upon us, ye get a snug rental frae the little house and croft, and I have naething; and ye have character and credit, but wha wald trust me, or wha cares for me? Ye hae been made *an elder* o' the kirk, too, I hear, and I am still a reprobate; but we were a' born to be just what we are, an' sae we maun submit. And your son, too, shares in your luck: he has heart and hand, and my whelps have neither; and the girl Henry, that scouts that sot there, likes him; but what wonder of that!—William Beth, we needna quarrel; but for peace' sake let me alone—we have naething in common, and friends we canna and winna be."

"We had better," whispered Ernest to his father, "not sleep in the cave to-night."

But why record the quarrels of this unfortunate evening? An hour or two passed away in disagreeable bickerings, during which the patience of even the old fisherman was well-nigh worn out, and that of Ernest had failed him altogether. And at length they both quitted the cave, boisterous as the night was, and it was now stormier than ever; and heaving off their boat till she rode at the full length of her swing from the shore, they sheltered themselves under the sail. The Macinlas returned next evening to Tarbat; but, though the wind moderated during the day, the yawl of William Beth did not enter the bay of Cromarty. Weeks passed away, during which the clergyman of the place corresponded regarding the missing fisherman with all the lower ports of the Firth, but they had disappeared as it seemed for ever; and Eachen Macinla, in the name of his sons, laid claim to their property, and entered a second time into possession of the house and the little field.

Where the northern headland of the Firth sinks into the

low sandy tract that nearly fronts the town of Cromarty, there is a narrow grassy terrace raised but a few yards over the level of the beach. It is sheltered behind by a steep undulating bank—for, though the rock here and there juts out, it is too rich in vegetation to be termed a precipice. To the east, the coast retires into a semicircular rocky recess, terminating seawards in a lofty, dark-browed precipice, and bristling throughout all its extent with a countless multitude of crags that at every heave of the wave break the surface into a thousand eddies. Towards the west, there is a broken and somewhat dreary waste of sand. The terrace itself, however, is a sweet little spot, with its grassy slopes that recline towards the sun, partially covered with thickets of wild-rose and honeysuckle, and studded in their season with violets and daisies, and the delicate rock geranium. Towards its eastern extremity, with the bank rising immediately behind, and an open space in front which seemed to have been cultivated at one time as a garden, there stood a picturesque little cottage. It was that of the widow of William Beth. Five years had now elapsed since the disappearance of her son and husband, and the cottage bore the marks of neglect and decay. The door and window, bleached white by the sea winds, shook loosely to every breeze; clusters of chickweed luxuriated in the hollows of the thatch, or mantled over the eaves; and a honeysuckle, that had twisted itself round the chimney, lay withering in a tangled mass at the foot of the wall. But the progress of decay was more marked in the widow than in her dwelling. She had had to contend with grief and penury;—a grief not the less undermining in its effects from the circumstance of its being sometimes suspended by hope—a penury so extreme, that every succeeding day seemed as if won by some providential interference from absolute want. And she was now, to all appearance, fast sinking in the

struggle. The autumn was well-nigh over; she had been weak and ailing for months before; and she had now become so feeble as to be confined for days together to her bed. But happily, the poor solitary woman had at least one attached friend in the daughter of a farmer of the parish, a young and beautiful girl, who, though naturally of no melancholy temperament, seemed to derive almost all she enjoyed of pleasure from the society of the widow.

Autumn, we have said, was near its close. The weather had given indications of an early and severe winter; and the widow, whose worn-out and delicate frame was affected by every change of atmosphere, had for a few days been more than usually indisposed. It was now long past noon, and she had but just risen. The apartment, however, bore witness that her young friend had paid her the accustomed morning visit; the fire was blazing on a clean, comfortable-looking hearth, and every little piece of furniture was arranged with the most scrupulous care. Her devotions were hardly over when the well-known tap and light foot of her friend Helen Henry were again heard at the door.

"To-morrow, mother," said Helen, as she took her seat beside her, "is Ernest's birthday. Is it not strange that, when our minds make pictures of the dead, it is always as they looked best, and kindest, and most lifelike? I have been seeing Ernest all day long, as when I saw him on his *last* birthday."

"Ah, my bairn!" said the widow, grasping her young friend by the hand, "I see that, sae lang as we continue to meet, our thoughts will be aye running the ae way. I had a strange dream last night, an' must tell it you. You see yon rock to the east, in the middle o' the little bay, that now rises through the back draught o' the sea, like the hulk o' a ship, an' is now buried in a mountain o' foam. I dreamed I

was sitting on that rock, in what seemed a bonny simmer's morning. The sun was glancin' on the water, an' I could see the white sand far down at the bottom, wi' the reflection o' the little waves aboon running over it in long curls o' gowd. But there was no way of leaving the rock, for the deep waters were round an' round me; an' I saw the tide covering ae wee bittie after anither, till at last the whole was covered. An' yet I had but little fear, for I remembered that baith Ernest an' William were in the sea afore me; an' I had the feeling that I could hae rest nowhere but wi' them. The water at last closed o'er me, an' I sank frae aff the rock to the sand at the bottom. But death seemed to have no power given him to hurt me, an' I walked as light as ever I had done on a gowany brae, through the green depths o' the sea. I saw the silvery glitter o' the trout an' the salmon shining in the sun, far, far aboon me, like white pigeons i' the lift<sup>1</sup>; and around me there were crimson star-fish, an' sea-flowers, and long trailing plants that waved in the tide like streamers; an' at length I came to a steep rock wi' a little cave like a tomb in it. Here, I said, is the end o' my journey—William is here, an' Ernest. An' as I looked into the cave, I saw there were bones in it, an' I prepared to take my place beside them. But, as I stooped to enter, some one called on me, an', on looking up, there was William. 'Lillias,' he said, 'it is not night yet, nor is that your bed; you are to sleep, not with me, but, lang after this, with Ernest; haste you home, for he is waiting for you.' 'Oh, take me to him!' I said; an' then, all at once I found myself on the shore, dizzied and blinded wi' the bright sunshine; for at the cave there was a darkness like that of a simmer's gloamin'; an' when I looked up for William, it was Ernest that stood before me, lifelike and handsome as ever; an' you were beside him."

<sup>1</sup> Air.

The day had been gloomy and lowering, and though there was little wind, a tremendous sea, that, as the evening advanced, rose higher and higher against the neighbouring precipice, had been rolling ashore since morning. The wind now began to blow in long hollow gusts among the cliffs, and the rain to patter against the widow's casement.

"It will be a storm from the sea," she said; "the scarts an' gulls hae been flying landward sin' daybreak, an' I hae never seen the ground-swell come home heavier against the rocks. Waes me for the puir sailors that maun bide under it a'!"

"In the long stormy nights," said her companion, "I cannot sleep for thinking of them; though I have no one to bind me to them now. Only look how the sea rages among the rocks as if it were a thing of life—that last wave rose to the crane's nest. And look! yonder is a boat rounding the rock with only one man in it. It dances on the surf as if it were a cork; and the little bit sail, so black and wet, seems scarcely bigger than a napkin. Is it not bearing in for the boat-haven below?"

"My poor old eyes," replied the widow, "are growing dim, an' surely no wonder; but yet I think I should ken that boatman. Is it no Eachen Macinla o' Tarbat?"

"Hard-hearted old man!" exclaimed the maiden, "what can be taking him here? Look how his skiff shoots in like an arrow on the long roll of the surf!—and now she is high on the beach. How cruel it was of him to rob you of your little property in the very first of your grief! But see, he is so worn out that he can hardly walk over the rough stones. Ah me, he is down!—wretched old man, I must run to his assistance; but no, he has risen again. See, he is coming straight to the house; and now he is at the door." In a moment after, Eachen entered the cottage.



"I am perishing, Lillias," he said, "with cold and hunger, an' can gang nae farther—surely ye'll no shut your door on me in a night like this?"

The poor widow had been taught in a far different school. She relinquished to the worn-out boatman her seat by the fire, now hurriedly heaped with fresh fuel, and hastened to set before him the simple viands which her cottage afforded.

As the night darkened, the storm increased. The wind roared among the rocks like the rattling of a thousand carriages over a paved street; and there were times when, after a sudden pause, the blast struck the cottage as if it were a huge missile flung against it, and pressed on its roof and walls till the very floor rocked, and the rafters strained and quivered like the beams of a stranded vessel. There was a ceaseless patter of mingled rain and snow—now lower, now louder; and the fearful thunderings of the waves as they raged among the pointed crags, were mingled with the hoarse roll of the stones along the beach. The old man sat beside the fire fronting the widow and her companion, with his head reclined nearly as low as his knee, and his hands covering his face. There was no attempt at conversation. He seemed to shudder every time the blast yelled along the roof, and as a fiercer gust burst open the door, there was a half-muttered ejaculation.

"Heaven itsel' hae mercy on them! for what can man do in a night like this?"

"It is black as pitch!" exclaimed the maiden, who had risen to draw the bolt, "and the drift flees so thick that it feels to the hand like a solid snow-wreath. And, oh, how it lightens!"

"Heaven itsel' hae mercy on them!" again ejaculated the old man. "My two boys," said he, addressing the widow,

"are at the far Firth ; an' how can an open boat live in a night like this !"

There seemed something magical in the communication—something that awakened all the sympathies of the poor bereaved woman ; and she felt she could forgive him every unkindness.

"Waes me !" she exclaimed, "it was in such a night as this, an' scarcely sae wild, that my Ernest perished."

The old man groaned and wrung his hands.

In one of the pauses of the hurricane there was a gun heard from the sea, and, shortly after, a second. "Some puir vessel in distress," said the widow ; "but, alas ! where can succour come frae in sae terrible a night ? There is help only in Ane ! Waes me ! would we no better light up a blaze on the floor, an', dearest Helen, draw off the cover frae the window ? My puir Ernest has told me that my light has aften showed him his bearings frae the deadly bed o' Dunskaith. That last gun," for a third was now heard booming over the mingled roar of the sea and wind, "cam' frae the very rock edge. Waes me ! maun they perish, an' sae near ?" Helen hastily lighted a bundle of mire-fir, that threw up its red sputtering blaze half-way to the roof, and, dropping the covering, continued to wave it opposite the window. Guns were still heard at measured intervals, but apparently from a safer offing ; and the last, as it sounded faintly against the wind, came evidently from the interior of the bay.

"She has escaped," said the old man ; "it's a feeble hand that canna do good when the heart is willing ;—but what has mine been doing a' life lang ?" He looked at the widow and shuddered.

Towards morning the wind fell, and the moon in her last quarter rose red and glaring out of the Firth, lighting the melancholy roll of the waves, and the broad white belt of surf



that skirted the shore. The old fisherman left the cottage, and sauntered along the beach. It was heaped with huge wreaths of kelp and tangle, uprooted by the storm, and in the hollow of the rocky bay lay the scattered fragments of a boat. Each man stooped to pick up a piece of the wreck, in the fearful expectation of finding some known mark by which to recognise it; when the light fell full on the swollen face of a corpse, that seemed staring at him from out a wreath of seaweed. It was that of his eldest son; and the body of the younger, fearfully gashed and mangled by the rocks, lay a few yards further to the east.

The morning was as pleasant as the night had been boisterous; and, except that the distant hills were covered with snow, and that a heavy swell continued to roll in from the sea, there remained scarce any trace of the recent tempest. Every hollow of the neighbouring hill had its little runnel, formed by the rains of the previous night, that now splashed and glistened to the sun. The bushes round the cottage were well-nigh divested of their leaves; but their red berries—hips and haws, and the juicy fruit of the honeysuckle—gleamed cheerfully to the light, and a warm steam of vapour, like that of a May morning, rose from the roof and the little mossy platform in front. But the scene seemed to have something more than merely its beauty to recommend it to a young man, drawn apparently to the spot, with many others, by the fate of the two unfortunate fishermen, and who now stood gazing on the rocks, and the hill, and the cottage, as a lover on the features of his mistress. The bodies had been carried to an old storehouse, which may still be seen, a short mile to the west; and the crowds that, during the early part of the morning, had been perambulating the beach, gazing at the wreck, and discussing the various probabilities of the accident, had gradually dispersed. But this solitary individual, whom

no one knew, remained behind. He was a tall and somewhat swarthy, though very handsome man, of about seven-and-twenty, with a slight scar on the left cheek; and his dress, which was plain and neat, was distinguished from that of the common seaman by three narrow stripes of gold lace on the upper part of one of the sleeves. He had twice stepped towards the cottage door, and twice drawn back, as if influenced by some unaccountable feeling—timidity, perhaps, or bashfulness; and yet the bearing of the man gave little indication of either. But at length, as if he had gathered heart, he raised the latch and went in.

The widow, who had had many visitors that morning, seemed to be scarcely aware of his entrance; she was sitting on a low seat beside the fire, her face covered with her hands, while the tremulous rocking motion of her body showed that she was still brooding over the distresses of the previous night. Her companion, who, without undressing, had thrown herself across the bed, was fast asleep. The stranger seated himself beside the fire, which seemed dying amid its ashes, and, turning sedulously from the light of the window, laid his hand gently on the widow's shoulder. She started and looked up.

"I have strange news for you," he said. "You have long mourned for your husband and your son; but though the old man has been dead for years, your son Ernest is still alive, and is now in the harbour of Cromarty. He is lieutenant of the vessel whose guns you must have heard during the night."

The poor woman seemed to have lost all power of reply.

"I am a friend of Ernest's," continued the stranger, "and have come to prepare you to meet with him. It is now five years since his father and he were blown off to sea by a strong gale from the land. They drove before it for four days, when

they were picked up by an armed vessel cruising in the North Sea, and which soon after sailed for the coast of Spanish America. The poor old man sank under the fatigues he had undergone; though Ernest, better able from his youth to endure hardship, was little affected by them. He accompanied us on our Spanish expedition—indeed, he had no choice, for we touched at no British port after meeting with him; and through good fortune, and what his companions call merit, he has risen to be the second man aboard; and has now brought home with him gold enough from the Spaniards to make his old mother comfortable. He saw your light yester evening, and steered by it to the roadstead, blessing you all the way. Tell me, for he anxiously wished me to inquire of you, whether Helen Henry is yet unmarried?"

"It is Ernest—it is Ernest himself!" exclaimed the maiden, as she started from the widow's bed. In a moment after he had locked her in his arms.

It was ill before evening with old Eachen Macinla. The fatigues of the previous day, the grief and horror of the following night, had prostrated his energies bodily and mental; and he now lay tossing in a waste apartment of the storehouse in the delirium of fever. The bodies of his two sons occupied the floor below. He muttered unceasingly in his ravings, of William and Ernest Beth. They were standing beside him, he said, and every time he attempted to pray for his poor boys and himself, the stern old man laid his cold swollen hand on his lips.

"Why trouble me?" he exclaimed. "Why stare with your white dead eyes on me? Away, old man! the little black shells are sticking in your grey hairs; away to your place! Was it I who raised the wind or the sea?—was it I—was it I? Aha!—no—no—you were asleep—you were fast asleep, and could not see me cut the *swing*; and, besides,

it was only a piece of rope. Keep away—touch me not ! I am a freeman, and will plead for my life. Please your honour, I did not murder these two men ; *I only cut the rope that fastened their boat to the land.* Ha ! ha ! ha ! he has ordered them away, and they have both left me unskaited.” At this moment Ernest Beth entered the apartment, and approached the bed. The miserable old man raised himself on his elbow, and, regarding him with a horrid stare, shrieked out—“ Here is Ernest Beth come for me a second time ! ” and, sinking back on the pillow, instantly expired.—(*Scenes and Legends.*)

---

## V

## A SCOTTISH TOWN OF THE EIGHTEENTH CENTURY

[Miller’s first important prose work was a “traditionary history” of his native town and parish, compiled mainly during the years 1829-32 from materials collected by him since his boyhood, and published in the spring of 1835 as *Scenes and Legends of the North of Scotland*. The result is an interesting and valuable mass of historic fact and tradition, interspersed with much local folk-lore which, but for Miller’s literary instinct, would have been quite lost to the collector. From this volume the preceding extract, those which follow, and several subsequent ones are introduced.]

## 1

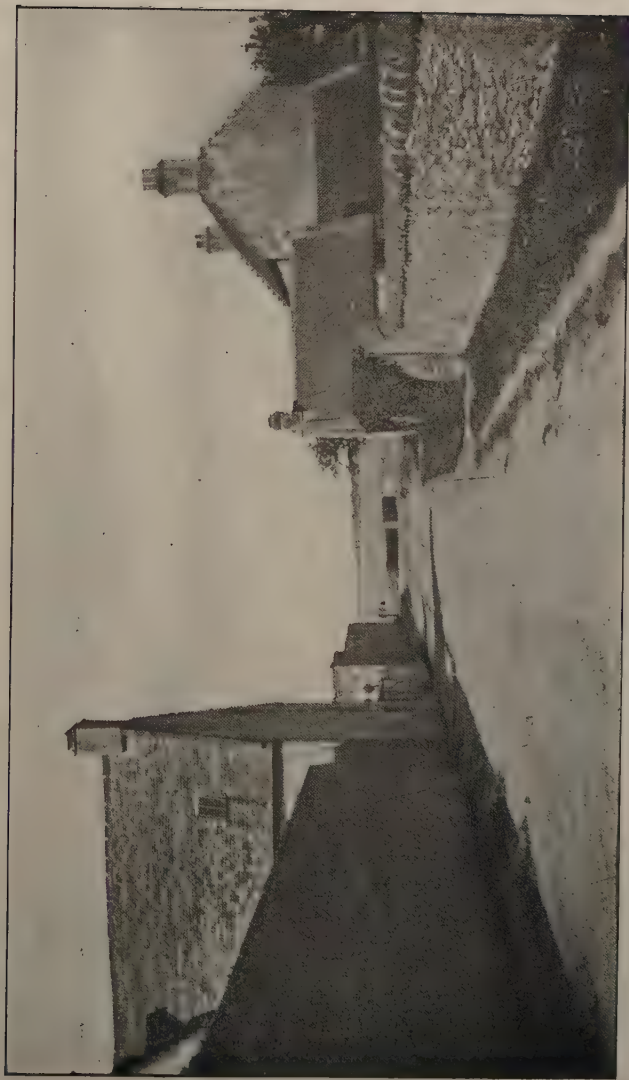
## OLD CROMARTY

As house after house in the old town of Cromarty was yielding its place to the sea, the inhabitants were engaged in building new dwellings for themselves in the fields behind. A second town was thus formed, the greater part of which

has since also disappeared, though under the influence of causes less violent than those which annihilated the first. Shortly after the Union, the trade of the place, which prior to that event had been pretty considerable, fell into decay, and the town gradually dwindled in size and importance until about the year 1750, when it had sunk into an inconsiderable village. After this period, however, trade began to revive, and the town again to increase; and as the old site was deemed inconveniently distant from the harbour, it was changed for the present. The main street of this second town, which is still used as a road, and bears the name of the Old Causeway, is situated about two hundred yards to the east of the houses, and is now bounded by the fences of gardens and fields, with here and there an antique-looking, high-gabled domicile rising over it. A row of large trees, which have sprung up since the disappearance of the town, runs along one of the fences.

About the beginning of the last century, the Old Causeway presented an aspect which, though a little less rural than at present, was still more picturesque. An irregular line of houses thrust forward their gables on either side, like two parties of ill-trained cavalry drawn up for the charge;—some juttied forward, others slunk backward, some slanted sideways, as if meditating a retreat, others, as if more decided, seemed in the act of turning round. They varied in size and character, from the little sod-covered cottage, with round moor stones sticking out of its mud walls, like skulls in the famous pyramid of Malta, to the tall narrow house of three storeys, with its court and gateway. Between every two buildings there intervened a deep narrow close, bounded by the back of one tenement and the front of another, and terminating in a little oblong garden, fringed with a deep border of nettles, and bearing in the centre plots of cabbage and parsnips;—





#### THE OLD CAUSEWAY

"The main street of this second town, which is still used as a road, and bears the name of the Old Causeway, is situated about two hundred yards to the east of the houses, and is now bounded by the fences of gardens and fields, with here and there an antique-looking, high-gabled domicile rising over it."





the latter being a root much used before the introduction of the potato. Here and there a gigantic ash or elm sprung out of the fence, and shot its ponderous arms over the houses. A low door, somewhat under five feet, and a few stone steps which descended from the level of the soil to that of the floor (for the latter was invariably sunk from one to three feet beneath the former), gave access to each of the meaner class of buildings. One little window, with the sill scarcely raised above the pavement, fronted the street, another, still smaller and equally low, opened to the close: they admitted through their unbevelled apertures and diminutive panes of brownish-yellow, a sort of umbery twilight, which even the level sunbeams, as they fell at eve or morn in long rules athwart the motty atmosphere within, scarce served to dissipate. An immense chimney, designed for the drying of fish, which formed the staple food of the poorer inhabitants, stretched from the edge of the window in the gable to near the opposite wall; and on the huge black lintel were inscribed, in rude characters, the name of the builder of the tenement, and that of his wife, with the date of the erection. The walls, naked and uneven, were hollowed in several places into little square recesses, termed *bowels* or *boles*; and at a height of not more than six feet above the floor, which was formed of clay and stone, and marvellously uneven, were the bare rafters varnished over with smoke.

The larger houses were built in a style equally characteristic of the age and country. A taste for ornamental masonry was considerably more prevalent in our Scottish villages about the beginning of the seventeenth century than at present. Palladio<sup>1</sup> began to be studied about that period

<sup>1</sup>An Italian architect of the sixteenth century who developed a style modelled on the ancient Roman, and made it the subject of a treatise which had great influence. Inigo Jones was called the "English Palladio."

by a few architects of the southern parts of the kingdom; and some of our provincial builders had picked up from them an imperfect acquaintance with the old classical style of architecture: but as they could avail themselves of only a few of its forms, and knew nothing of its proportions, they became, all unwittingly, the founders of a kind of school of their own. And some of the houses of the old town were no bad specimens of this half Grecian half Gothic school. The high narrow gables, jagged like the teeth of a saw, the diminutive, heavily-framed windows, and chamfered rybats, remained unaltered; but there were stuck round the low doors, which still retained their Gothic proportions, imitations of Palladio's simpler door-pieces; and huge Grecian cornices, more than sufficiently massy for halls twenty feet in height, with circular pateras designed in the same taste, and roughened with vile imitations of the vine and laurel, adorned the better rooms within. The closes leading to buildings of this superior class were lintelled at the entrance, and over each lintel there was fixed a tablet of stone, bearing the arms and name of the proprietor. A large house of this kind, on the eastern side of the street, was haunted, it was said, by a *green lady*, one of the old Scottish spectres, who flourished before the introduction of shrouds and dead linens; and another on the opposite side, by a capricious brownie, who disarranged the pieces of furniture and the platters every night the domestics set them in order, and set them in order every night they were left disarranged. Directly in the middle of the street stood the town's cross, over the low-browed entrance of a stone vault, furnished with seats, also of stone. The formidable *jougs*<sup>1</sup> depended from one of the

<sup>1</sup> An iron collar attached by a short chain to the wall of some public building, and used as a sort of pillory for punishment in both civil and ecclesiastical cases.

abutments. A little higher up was the jail, an antique ruinous structure, with stone floors, and a roof of ponderous grey slate. The manse, a mean-looking house of two low storeys, with very small windows, and bearing above the door the initials of the first Protestant minister of the parish,<sup>1</sup> nearly fronted it; while the only shop of the place was situated so much lower down, that, like the houses of the earlier town, it was carried away by the sea during a violent storm from the north-east. There mingled with the other domiciles a due proportion of roofless tenements, with their red weather-wasted gables, and melancholy-looking unframed windows and doors; and, as trade decayed, even the more entire began to fall to pieces, and to show, like so many mouldering carcasses, their bare ribs through the thatch. Such was the old town of Cromarty in the year 1720.

## 2

THE OLD CASTLE OF THE URQUHARTS<sup>2</sup>

Directly behind the site of the old town, the ground, as described in a previous chapter, rises abruptly from the level to the height of nearly a hundred feet, after which it forms a kind of table-land of considerable extent, and then sweeps gently to the top of the hill. A deep ravine, with a little stream running through it, intersects the rising ground at nearly right angles with the front which it presents to the

<sup>1</sup> Robert Williamson, 1582. It had previously only a "reader."

<sup>2</sup> Built mainly during the last quarter of the sixteenth century, as is indicated by a charter of James III., dated 6th April, 1470, granting to William Urquhart of Cromarty, knight, the Mote and Mansion Hill of Cromarty, with permission to build a castle thereon. — (Macfarlane's *Geneal. Coll.*, ii., 375.) The "castle," in accordance with the fashion of the time, consisted of a keep and a courtyard, within which other buildings were later erected.

houses; and on the eastern angle, towering over the ravine on the one side, and the edge of the bank on the other, stood the old castle of Cromarty. It was a massy, time-worn building, rising in some places to the height of six storeys, battlemented at the top, and roofed with grey stone. One immense turret jutted out from the corner, which occupied the extreme point of the angle; and looking down from an altitude of at least one hundred and sixty feet on the little stream, and the struggling row of trees which sprung up at its edge, commanded both sides of the declivity, and the town below. Other turrets of smaller size, but pierced like the larger one with rows of little circular apertures, which in the earlier ages had given egress to the formidable bolt, and in the more recent, when the crossbow was thrown aside for the petronel, to the still more formidable bullet, were placed by pairs on the several projections that stood out from the main body of the building, and were connected by hanging bartisans. There is a tradition that some time in the seventeenth century a party of Highlanders, engaged in some predatory enterprise, approached so near the castle on this side, that their leader, when in the act of raising his arm to direct their march, was shot at from one of the turrets and killed, and the party, wrapping up the body in their plaids, carried it away.

The front of the castle opened to the lawn, from which it was divided by a dry moat, nearly filled with rubbish, and a high wall indented with embrasures, and pierced by an arched gateway. Within was a small court, flagged with stone, and bounded on one of the sides by a projection from the main building, bartisaned and turreted like the others, but only three storeys in height, and so completely fallen into decay that the roof and all the floors had disappeared. From the level of the court, a flight of stone steps led to the vaults

below ; another flight of greater breadth, and bordered on both sides by an antique balustrade, ascended to the entrance; and the architect, aware of the importance of this part of the building, had so contrived it, that a full score of loopholes in the several turrets and outjets which commanded the court, opened directly on the landing-place. Round the entrance itself there jutted a broad, grotesquely-proportioned moulding, somewhat resembling an old-fashioned picture-frame, and directly over it there was a square tablet of dark blue stone, bearing in high relief the arms of the old proprietors; but the storms of centuries had defaced all the nicer strokes of the chisel, and, the lady with her palm and dagger, the boars' heads, and the greyhounds, were transformed into so many attenuated spectres of their former selves;—no inappropriate emblem of the altered fortunes of the house. The windows, small and narrow, and barred with iron, were thinly sprinkled over the front: and from the lintel of each there rose a triangular cap of stone, fretted at the edges, and terminating at the top in two knobs fashioned into the rude semblance of thistles. Initials and dates were inscribed in raised characters on these triangular tablets. The aspect of the whole pile was one of extreme antiquity. Flocks of crows and jays, that had built their nests in the recesses of the huge tusked cornices which ran along the bartisans, wheeled ceaselessly around the gables and the turrets, awakening with their clamorous cries the echoes of the roof. The walls, grey and weather-stained, were tapestried in some places with sheets of ivy; and an ash sapling, which had struck its roots into the crevices of the outer wall, rose like a banner over the half-dilapidated gate-way.

The castle, for several years before its demolition, was tenanted by only an old female domestic, and a little girl whom she had hired to sleep with her. I have been told by



the latter, who, at the time when I knew her, was turned of seventy, that two threshers could have plied their flails within the huge chimney of the kitchen; and that in the great hall, an immense dark chamber lined with oak, a party of a hundred men had exercised at the pike. The lower vaults she had never the temerity to explore; they were dark and gousty, she said, and the slits which opened into them were nearly filled up with long rank grass. Some of her stories of the castle associated well with the fantastic character of its architecture, and the ages of violence and superstition which had passed over it. A female domestic who had lived in it before the woman she was acquainted with, and who was foolhardy enough to sleep in it alone, was frightened one night out of her wits, and never again so far recovered them as to tell for what. At times there would echo through the upper apartments a series of noises, as if a very weighty man was pacing the floors; and "Oh," said my informant, "if you could but have heard the shrieks, and moans, and long whistlings, that used to come sounding in the stormy evenings of winter from the chimneys and the turrets. Often have I listened to them as I lay a-bed, with the clothes drawn over my face." Her companion was sitting one day in a little chamber at the foot of the great stair, when, hearing a tapping against the steps, she opened the door. The light was imperfect—it was always twilight in the old castle—but she saw, she said, as distinctly as ever she saw anything, a small white animal resembling a rabbit, rolling from step to step, head over heels, and dissolving, as it bounded over the last step, into a wreath of smoke. On another occasion, a Cromarty shoemaker, when passing along the front of the building in a morning of summer, was horrified by the apparition of a very diminutive, greyheaded, greybearded old man, with a withered meagre face scarcely bigger than one's

fist, that seemed seated at one of the windows. On returning by the same path about half an hour after, just as the sun was rising out of the Firth, he saw the same figure wringing its hands over a little cairn in a neighbouring thicket, but he had not courage enough to go up to it.

The scene of all these terrors has long since disappeared; the plough and roller have passed over its foundations; and all that it recorded of an ancient and interesting, though unfortunate family, with its silent though impressive narratives of the unsettled lives, rude manners, uncouth tastes, and war-like habits of our ancestors, has also perished. It was pulled down by a proprietor of Cromarty, who had purchased the property a few years before; and, as he was engaged at the time in building a set of offices and a wall to his orchard, the materials it furnished proved a saving to him of several pounds. He was a man of taste, too, as well as of prudence, and by smoothing down the eminence on which the building had stood, and then sowing it with grass, he bestowed upon it, for its former wild aspect, so workmanlike an appearance, that one might almost suppose he had made the whole of it himself. Two curious pieces of sculpture were, by some accident, preserved entire in the general wreck. In a vaulted passage which leads from the modern house to the road, there is a stone slab about five feet in length, and nearly two in breadth, which once served as a lintel to one of the two chimneys of the great hall. It bears, in low relief, the figures of hares and deers sorely beset by dogs, and surrounded by a thicket of grapes and tendrils. The huntsman stands in the centre, attired in a sort of loose coat that reaches to his knees, with his horn in one hand, and his hunting-spear in the other, and wearing the moustaches and peaked beard of the reign of Mary. The lintel of the second chimney, a still more interesting relic, is now in Kinbeakie Cottage, parish of

Resolis: and a good lithographic print of it may be seen in the museum of the Northern Institution, Inverness; but of it more anon. All the other sculptures of the castle, including several rude pieces of Gothic statuary, were destroyed by the workmen. An old stone dial, which had stood in front of the gate, was dug up by the writer, out of the corner of the lawn, about twelve years ago, and is now in his possession. When entire, it indicated the hour in no fewer than nineteen different places; and, though sorely mutilated and divested of all its gnomons, it is still entire enough to show that the mathematical ability of the artist must have been of no ordinary kind. It was probably cut under the inspection of Sir Thomas, who, among his other accomplishments, was a skilful geometrician.

“The old castle of Cromarty,” says the statistical account of the parish (Sir John Sinclair’s), “was pulled down in the year 1772. Several urns, composed of earthenware, were dug out of the bank immediately around the building, with several coffins of stone. The urns were placed in square recesses formed of flags, and when touched by the labourers instantly mouldered away, nor was it possible to get up one of them entire. They were filled with ashes mixed with fragments of half-burned bones. The coffins contained human skeletons, some of which wanted the head; while among the others which were entire, there was one of a very uncommon size, measuring seven feet in length.”

## 3

## HEREDITARY SHERIFFSHIP

The old proprietors of the castle, among the other privileges derived to them as the chiefs of a wide district of country, and the system of government which obtained during the ages in which they flourished, were hereditary Sheriffs of Cromarty,

and vested with the power of pit and gallows. The highest knoll of the southern Sutor is still termed the Gallow-hill, from its having been a place of execution ; and a low cairn nearly hidden by a thicket of furze, which still occupies its summit, retains the name of the gallows. It is said that the person last sentenced to die at this place was a poor Highlander who had insulted the Sheriff, and that when in the act of mounting the ladder he was pardoned at the request of the Sheriff's lady. At a remoter period, the usual scene of execution was a little eminence in the western part of the town, directly above the harbour, where there is a small circular hollow still known to the children of the place as the *Witch's Hole* ; and in which, says tradition, a woman accused of witchcraft was burnt for her alleged crime some time in the reign of Charles II. The Court-hill, an artificial mound of earth, on which, at least in the earlier ages, the cases of the sheriffdom were tried and decided, was several hundred yards nearer the old town. Some of the sentences passed at this place are said to have been flagrantly unjust. There is one Sheriff in particular, whom tradition describes as a cruel, oppressive man, alike regardless of the rights and lives of his poor vassals ; and there are two brief anecdotes of him which still survive. A man named Macculloch, a tenant on the Cromarty estate, was deprived of a cow through the injustice of one of the laird's retainers, and going directly to the castle, disposed rather to be energetic than polite, he made his complaint more in the tone of one who had a right to demand, than in the usual style of submission. The laird, after hearing him patiently, called for the key of the dungeon, and going out, beckoned on Macculloch to follow. He did so ; they descended a flight of stone steps together, and came to a massy oak door, which the laird opened ; when suddenly, and without uttering a

syllable, he laid hold of his tenant with the intention of thrusting him in. But he had mistaken his man; the grasp was returned by one of more than equal firmness, and a struggle ensued, in which Macculloch, a bold, powerful Highlander, had so decidedly the advantage, that he forced the laird into his own dungeon, and then locking the door, carried away the key in his pocket. The other anecdote is of a sterner cast:—A poor vassal had been condemned on the Court-hill under circumstances more than usually unjust; and the laird, after sentence had been executed on the eminence at the *Witch's Hole*, was returning homewards through the town, surrounded by his retainers, when he was accosted in a tone of prophecy by an old man, one of the Hossacks of Cromarty, who, though bedridden for years before, had crawled to a seat by the wayside to wait his coming up. Tradition has preserved the words which follow as those in which he concluded his prediction; but they stand no less in need of a commentary than the obscurest prophecies of Merlin or Thomas the Rhymer:—"Laird, laird, what mayna skaith i' the brock, maun skaith i' the stock." The seer is said to have meant that the injustice of the father would be visited on the children.

The recollection of these stories was curiously revived in Cromarty in the spring of 1829; when a labourer employed in digging a pit on the eminence above the harbour, and within a few yards of the *Witch's Hole*, struck his mattock through a human skull, which immediately fell to pieces. A pair of shin-bones lay directly below it, and on digging a little further there were found the remains of two several skeletons and a second skull. From the manner in which the bones were blended together, it seemed evident that the bodies had been thrown into the same hole, with their heads turned in opposite directions, either out of carelessness or

in studied contempt. And they had, apparently, lain undisturbed in this place for centuries. A child, by pressing its foot against the skull which had been raised entire, crushed it to pieces like the other; and the whole of the bones had become so light and porous, that when first seen by the writer, some of the smaller fragments were tumbling over the sward before a light breeze, like withered leaves, or pieces of fungous wood.—(*Scenes and Legends.*)

---

## VI

## THE OLD PARISH SCHOOL

## 1

## THE SCHOOL

THE old school of Cromarty was situated in a retired little corner, behind the house where the parish burying-ground bordered on the woods of the old castle. It was a low, mean-looking building, with its narrow latticed windows, which were half buried in the thatch, opening on the one side to the uncouth monuments of the churchyard, and on the other, through a straggling line of willows which fringed the little stream in front, to the ancient timeworn fortalice perched on the top of the hill. Mean, however, as it seemed—and certainly no public edifice could owe less to the architect—it formed one of Knox's strongholds of the Reformation, and was erected by the united labours of the parishioners, agreeably to the scheme laid down in the First Book of Discipline, long previous to the Education Act of 1643.<sup>1</sup> It had become

<sup>1</sup> There was no such Act in 1643. Miller must mean either the Act of 1633 (Episcopal), or that of 1646 (Presbyterian)—probably the latter.



an old building ere the Restoration, and fell into such disrepair during the reign of Episcopacy, that for a time it no longer sheltered the scholars. I find it enacted in the summer of 1682, by the Kirk-Session—for, curious as it may seem, even the curates in the North of Scotland had their Kirk-Sessions and their staffs of elders—that “the hail inhabitants of the burgh, especially masons and such as have horse, do repayre and bigg the samin in the wonted place, and that the folk upland do provide them with feal and diffiot<sup>1</sup>.” And, in the true spirit of the reign of Charles II., a penalty of four pounds Scots enforced the enactment.

The scheme of education drawn up by our first Reformers was stamped by the liberality of men who had learned from experience that tyranny and superstition derive their chief support from ignorance. Almost all the knowledge which books could supply at the time was locked up in the learned languages; and so it was necessary that these languages even the common people should acquire. It was appointed, therefore, “that young men who purposed to travail in some handicraft for the good of the commonwealth, should first devote ane certaine time to Grammar and the Latin tongue, and ane certaine time to the other tongues and the study of philosophy.” Even long before the enactment, when we had got authors of our own in every department of literature, and a man could have become learned, if knowledge be learning, simply as an English reader, an acquaintance with Latin formed no unimportant part of a common Scotch education. Our fathers pursued the course which circumstances had rendered imperative in the days of their great-grandfathers, merely because their great-grandfathers had pursued it, and because people find it easier to persist in hereditary practices than to think for themselves. And so the few years which

<sup>1</sup> Turf.

were spent in school by the poorer pupils of ordinary capacity, were absurdly frittered away in acquiring a little bad Latin and a very little worse Greek. So strange did the half-learning of our common people (derived in this way) appear to our southern neighbours, that there are writers of the last century who, in describing a Scotch footman or mechanic, rarely omit making his knowledge of the classics an essential part of his character. The barber in Roderick Random quotes Horace in the original; and Foote, in one of his farces, introduces a Scotch valet, who, when some one inquires of him whether he be a Latinist, indignantly exclaims, "Hoot awa, man! a Scotchman and no understand Latin!"

The school of Cromarty produced, like most of the other schools of the kingdom, its Latinists who caught fish and made shoes; and it is not much more than thirty years since the race became finally extinct. I have heard stories of an old house-painter of the place, who, having survived most of his school-fellows and contemporaries, used to regret, among his other vanished pleasures, the pleasure he could once derive from an inexhaustible fund of Latin quotation, which the ignorance of a younger generation had rendered of little more value to him than the paper-money of an insolvent bank;<sup>1</sup> and I have already referred to an old cabinetmaker whom I remember, who was in the practice, when his sight began to fail him, of carrying his Latin New Testament with him to church, as it chanced to be printed in a clearer type than any of his English ones. It is said, too, of a learned fisherman of the reign of Queen Anne, that when employed one day among his tackle, he was accosted in Latin by the proprietor of Cromarty, who, accompanied by two gentlemen from England, was sauntering along the shore, and that, to the surprise of the strangers, he replied with no little fluency in the same language.

<sup>1</sup> Miller was now an accountant in the local branch of the Commercial Bank.

## 2

## THE HARD DOMINIE

It is now somewhat more than eighty years since John Russel,<sup>1</sup> a native of Moray, and one of the Church's probationers, was appointed to the parish school of Cromarty. He was a large, robust, dark-complexioned man, imperturbably grave, and with a singularly stern expression stamped on his dusky forehead, that boded the urchins of the place little good. And in a few months he had acquired for himself the character of being by far the most rigid disciplinarian in the country. He was, I believe, a good, conscientious man, but unfortunate in a temper at once violent and harsh, and in sometimes mistaking its dictates for those of duty. At any rate, whatever the nature of the mistake, never was there a schoolmaster more thoroughly feared and detested by his pupils; and with dread and hatred did many of them continue to regard him long after they had become men and women. His memory was a dark morning cloud resting on their saddened boyhood, that cast its shadows into after life. I have heard of a lady who was so overcome by sudden terror on unexpectedly seeing him, many years after she had quitted school, in one of the pulpits of the south, that she fainted away in the pew; and of another of his scholars named M'Glashan—a robust, daring young man of six feet—who, when returning to Cromarty from some of the colonies, solaced himself by the way with thoughts of the hearty drubbing with which he was to clear off all his old scores with the dominie. Ere his return, however, Mr. Russel had

<sup>1</sup> He was parish schoolmaster and session-clerk from September, 1760, to December, 1770. He became minister of the High Church, Kilmarnock, in 1774, whence his association with Burns. He was transferred to the West Church, Stirling, in 1800: died, 1817.

quitted the parish ; nor, even if it had chanced otherwise, might the young fellow have gained much in an encounter with one of the boldest and most powerful men in the country.

But Polyphemus himself, giant as he was, and a demigod to boot, could not always be cruel with impunity. The schoolmaster had his vulnerable point ; he was a believer in ghosts : at all events he feared them very heartily, whether he believed in them or no ; and some of his boys, much as they dreaded him, contrived on one occasion to avenge themselves upon him through his fears. In the long summer evenings he was in the habit of prosecuting his studies to a late hour in the schoolroom ; from which, in returning to his lodgings, he had to pass through the churchyard. And when striding homewards one night, laden with books and papers, so affrighted was he by a horrible apparition, all over white, which started up beside him from beneath one of the tombstones, that, casting his burden to the winds, and starting off like wildfire, he never once looked behind him until he had gained his landlady's fireside. It is said that he never after prosecuted his evening studies in the school. The late minister of Knockbain, Mr. Roderick M'Kenzie, for many years father of the Presbytery of Chanonry, used to tell with much glee that he knew a very great deal about the urchin who, on behalf of the outraged youthhood of the place, wore the white sheet on this interesting occasion. "I was quite as much afraid of ghosts," he used to say, "as Mr. Russel himself ; but three of my companions lay fast ensconced, to keep me in heart and countenance, under a neighbouring gravestone."

There was among Russel's pupils a poor boy named Skinner, who, as was customary in Scottish schools of the period, blew the horn for gathering the scholars, and kept

the catalogue and the key, and who, in return for his services, was educated by the master, and received some little gratuity from the boys besides. To the south of the Grampians he would have been termed the Janitor of the school; whereas in the north, in those days, the name attached to him, in virtue of his office, was the humbler one of "The Pauper." Unluckily, on one occasion, the key dropped out of his pocket; and, when school time came, the irascible dominie had to burst open the door with his foot. He raged at the boy with a fury so insane, and beat him with such relentless severity, that in the extremity of the case, the other boys rose up shrieking around him as if they were witnessing the perpetration of a murder; and the tyrant, brought suddenly to himself by so strange an exhibition, flung away the rod and sat down. And such, it is said, was the impression made on the mind of poor "Pauper Skinner," that though he quitted the school shortly after, and plied the profession of a fisherman until he died an old man, he was never from that day seen disengaged for a moment, without mechanically thrusting his hand into the key-pocket. If excited, too, by any unexpected occurrence, whatever its nature, he was sure to grope hastily, in his agitation, for the missing key. One other anecdote illustrative of Mr. Russel's temper. He was passing along the main street of the town, in a day of wind and rain from the sea, with his head half-buried in his breast, when he came violently in contact with a thatcher's ladder, which had been left sloping from the roof of one of the houses. A much less matter would have sufficed to awaken the wrath of Mr. Russel: he laid hold of the ladder, and, dashing it on the pavement, broke with his powerful foot, ere he quitted it, every one of the "rounds."

For at least the last six years of his residence in Cromarty he was not a little popular as a preacher. His manner was

strong and energetic, and the natural severity of his temper seems to have been more than genius to him when expatiating, which he did often, on the miseries of the wicked in a future state. The reader will scarce fail to remember the picture of the preacher dashed off by Burns in the "Holy Fair";<sup>1</sup> or to see that the poet's arrows, however wickedly shot, came from no bow drawn at venture:—

“Black Russel is nae spairin’;  
His piercing words, like Highland swords,  
Divide the joints an’ marrow;  
His talk o’ hell, where devils dwell,  
Our verra sauls does harrow  
Wi’ fright that day.

“A vast unbottom’d, boundless pit,  
Fill’d fou o’ lowin’ brunstane,  
Whase ragin’ flame and scorchin’ heat  
Wad melt the hardest whunstane.  
The half-asleep start up wi’ fear,  
And think they hear it roarin’,  
When presently it does appear  
’Twas but some neebor snorin’  
Asleep that day.”

I have seen one of Russel's sermons in print; it is a controversial one, written in a bold, rough style, and by no means inferior as a piece of argument; but he was evidently a person rather to be listened to than read. He was quite as stern in Church matters, it is said, as in those of the school; but men are less tractable than boys; and his severity proved more effectual in making his pupils diligent than in reforming the town's-people. He converted a few rather careless boys into not very inferior scholars; but though he set himself so much against the practice of Sabbath-evening walking, that he used

<sup>1</sup> See also "The Twa Herds," "The Ordination," and "The Kirk's Alarm."



to take his stand every Sunday, after the church had dismissed, full in the middle of the road which leads from the town to the woods and rocks of the Southern Sutor, and sometimes turned back the walkers by the shoulders after he had first shaken them by the breast, the practice of Sabbath-evening walking became even more common than before. Instead of addressing himself to the moral sense of the people, he succeeded in but arousing their combative propensities; and these, once awakened, took part against a good cause, simply because it had been unwisely and unjustifiably defended.

I have an uncle in Cromarty, now an elderly man, who, when residing in Glasgow in the year 1792, walked about ten miles into the country to attend a sacramental *occasion*, at which he was told Mr. Russel was to officiate, and which proved to be such a one as Burns has described in his "Holy Fair." There were excellent sermons to be heard from the *tent*, and very tempting drink to be had in an ale-house scarcely a hundred yards away; and between the tent and the ale-house were the people divided, according to their tastes and characters. A young man preached in the early part of the day—his discourse was a long one; and, ere it had come to a close, the mirth of the neighbouring toppers, which became louder the more deeply they drank, had begun to annoy the congregation. Mr. Russel was standing beside the tent. At every fresh burst of sound he would raise himself on tiptoe, look first, with a portentous expression of countenance, towards the ale-house, and then at the clergyman; who at length, concluding his part of the service, yielded to him his place. He laid aside the book, and, without psalm or prayer, or any of the usual preliminaries, launched at once into a powerful extempore address, directed, over the heads of the people, at the ale-house. I have been

assured by my relative that he never before or since heard anything half so energetic. His ears absolutely tingled, as the preacher thundered out, in a voice almost superhuman, his solemn and terrible denunciations. Every sound of revelry ceased in a moment; and the Bacchanals, half-drunk as most of them had ere now become, were so thoroughly frightened as to be fain to steal out through a back window, and slink away along bypaths through the fields. Mr. Russel was ultimately appointed one of the ministers of Stirling. A Cromarty man, a soldier in a Highland regiment, when stationed in Stirling Castle, had got involved one day in some street quarrel, and was swearing furiously, when a tall old man in black came and pulled him out of the crowd. "Wretched creature that ye are!" said the old man; "come along with me." He drew him into a quiet corner, and began to expostulate with him on his profanity, in a style to which the soldier, an intelligent though by no means steady man, and the child of religious parents, could not but listen. Mr. Russel—for it was no other than he—seemed pleased with the attention he paid him; and on learning whence he had come, and the name of his parents, exclaimed with much feeling, "Waes me! that your father's son should be a black-guard soldier on the streets of Stirling! But come awa." He brought him home with him, and added to the serious advice he had given him an excellent dinner. The temper of the preacher softened a good deal as he became old; and he was much a favourite with the more serious part of his congregation. He was, with all his defects, an honest, pious man; and had he lived in the days of Renwick or Cargill, or, a century earlier, in the days of Knox or Wishart, he might have been a useful one. But he was unlucky in the age in which he lived, in his temper, and in coming in contact with as hard-headed people as himself.

## 3

## THE COCK-FIGHT

The parish schools of Scotland had their annual saturnalian feast, of what may be well deemed an extraordinary character, if we consider their close connexion with the National Church, and that their teachers were in so many instances licensed clergymen waiting for preferment. On Fasten's-eve, just when all Rome was rejoicing in the licence of the Carnival, the schoolmaster, after closing the service of the day with prayer, would call on the boys to divide and choose for themselves "*Head-stocks*," i.e., leaders, for the yearly cock-fight of the ensuing Shrove-Tuesday.<sup>1</sup> A sudden rush would immediately take place among the pigmy population of the school to two opposing desks, which, piled up with urchin a-top of urchin half-way to the rafters, would straightway assume the appearance of two treacled staves, covered with black-bottle flies in a shopkeeper's yard, on a day of midsummer. The grave question of leadership soon settled, in consequence of previous out-of-door arrangement, the master, producing the catalogue, would next proceed to call the boys in alphabetical order; and each boy to intimate, in reply, under what "head-stock" he purposed fighting his cocks, and how many cocks he intended bringing into the pit. The master, meanwhile, went on recording both items in a book—in especial the number of the cocks—as, according to the registered figure, which always exceeded the array actually brought into the fight, he received, as a fixed perquisite of his office, a fee of twopence per head. The school then broke up; and for the two ensuing days, which were given as holidays for the

<sup>1</sup>The day before Ash Wednesday, the first day of Lent, which ends with Easter. Fasten's-eve was a general term for this "shriving-time" before the fast: here it is the Monday before.

purpose of preparation, the parish used to be darkened by wandering scholars going about from farmhouse to farmhouse in quest of cocks. Most boys brought at least one cock to the pit; and "head-stocks"—selected usually for the wealth of their parents, and with an eye to the entertainment with which the festival was expected to close—would sometimes bring up as many as ten or twelve. The cock-fight ball, given by the victorious "head-stock" on the eve of his victory, was always regarded as the crowning item in the festival.

On the morning of Shrove Tuesday, the floor of the school, previously cleared of all the forms, and laid out into a chalked circle, representative of the cockpit, became a scene of desperate battle. The master always presided on these occasions as umpire; while his boys clustered in a ring, immediately under his eye, a little beyond the chalked line. The cocks of the lads who ranged under the one "head-stock" were laid down one after one on the left, those of the other, as a bird dropped exhausted or ran away, upon the right; and thus the fight went on from morning till far on in the evening; when the "head-stock" whose last bird remained in possession of the field, and whose cocks had routed the greatest number in the aggregate, was declared victor, and formally invested with a tinsel cap, in a ceremony termed the "crowning." The birds, however, were permitted to share in the honour of their masters—and in many schools there was a small silver bell, the property of the institution, attached to the neck of the poor cock who had beaten the largest number of opponents; but very rarely did he long survive the honour. I remember seeing one gallant bird, who had vanquished six cocks in succession, stand in the middle of the pit, one of his eyes picked out, and his comb and bells all in a clot of blood, and then, in about half a minute after

his last antagonist had fled, fall dead upon the floor. It is really wonderful how ingenious boys can be made, in even the more occult mysteries of the cockpit, when their training has been good. Some hopeful scholars had learned to provide themselves with medicated grains for drugging, as the opportunity offered, the birds of an opponent; and it was no unusual thing for a lad who carried his cock under his arm in the crowd, to find the creature rendered unfit for the combat by the skilful application of the pin of an antagonist, who, having stolen stealthily upon him from behind, succeeded in serving the poor animal as the minions of Mortimer served the hapless Edward II. The birds who, without any such apology, preferred running away to fighting, were converted into *droits*,<sup>1</sup> under the ill-omened name of *fugies*,<sup>2</sup> and forfeited to the master of the school. And these were rendered by him the subject of yet another licensed amusement of the period. The *fugies* were fastened to a stake in the playground, and destroyed, one after one, in the noble game of cock-throwing, by such of the pupils or of the town's-people as could indulge in the amusement at the rate of a halfpenny the throw. The master not only pocketed all the halfpennies, but he also carried home with him all the carcasses. It is perhaps not very strange that good men, of naturally severe temper, like Mr. Russel, should have said grace over their *cock-a-leekie* thus procured, without once suspecting that there was anything wrong in the practice; but that school-masters like M'Culloch, who was a person of humanity, should have done so, serves strikingly to show how blinding and tyrannical must be that influence which custom exercises over the best of men;<sup>3</sup> and that not only does religion exert a

<sup>1</sup> French, *droit*, toll or fee.

<sup>2</sup> Latin, *fuge*, fly!

<sup>3</sup> Cock-fighting was a favourite amusement of Henry Mackenzie, author of *The Man of Feeling*. (Grey Graham's *Scottish Men of Letters*, p. 421.)



beneficial effect on civilisation, but that civilisation may, in turn, react with humanizing influence on the religious. The very origin of the festival is said to have been ecclesiastical. I may add, that the practice of cock-throwing was abolished in the old school of Cromarty by Mr. Russel's immediate successor—the late Rev. Mr. Macadam of Nigg; but the annual cock-fight survived until put down, a few years ago,<sup>1</sup> by the present incumbent of the parish.—(*Scenes and Legends.*)

---

## VII

## THE CROMARTY JACOBINS

THE American War was followed by the French Revolution, and the crash of a falling throne awakened opinion all over Europe. The young inquired whether men are not born equal; the old shook their heads, and asked what was to come next? There were gentlemen of the place who began to remark that the tradesfolk no longer doffed to them their bonnets, and tradesfolk that the gentlemen no longer sent to them their newspapers. But the people got newspapers for themselves;—these, too, of a very different stamp from the ones they had been accustomed to; and a crop of young Whigs began to shoot up all over the place, like nettles in spring. They could not break into the meanings of all the new, hard-shelled words they were meeting with—words ending in *acy* and *archy*; but no people could understand better that a king is only a kind of justice of the peace, who may be cashiered for misconduct just like any other magis-

<sup>1</sup> It was abolished by the late Rev. Mr. Stewart, in the second year of his incumbency (1826) (Miller).



trate ; that all men are naturally equal ; and that one whose grandfather had mended shoes, was every whit as well-born as one whose grandfather was the bastard of an emperor. And seldom were there people more zealous or less selfish in their devotion than the new-made politicians of Cromarty. Their own concerns gave place, as they ought, to the more important business of the State ; and they actually hurt their own heads, and sometimes, when the ale was bad, their own bellies, in drinking healths to the French. Light after light gleamed upon them, like star after star in a frosty evening. First of all, Paine's Rights of Man shone upon them through the medium of the newspapers, with the glitter of fifty constellations ; then the Resolutions of the Liberty and Equality clubs of the south looked down upon them with the effulgence of fifty more ; at length, up rose the scheme for the division of property, like the moon at full, and, flaring with portentous splendour, cast all the others into comparative obscurity. The people looked round them at the parks which the modern scheme of agriculture had so conveniently fenced in with dikes and hedges ; and spoke of the high price of potato-land and the coming Revolution. A countryman went into one of the shops about this time, craving change for a pound-note. "A pound-note !" exclaimed the shopkeeper, snapping his fingers ;—"a pound-note !—Man, I wadna gie you tip-pence for't."

There was a young man of the place, the son of a shopkeeper, who had been marked from his earliest boyhood by a smart precocity of intellect, and the boldness of his opinions ; his name (for I must not forget that, to borrow one of Johnson's figures, I am walking over ashes the fires of which are not yet extinguished) I shall conceal. He was one of those persons who, like the stormy petrel of the tropics, come abroad when the seas begin to rise, and the heavens to

darken ; and who find their proper element in a wild mixture of all the four elements jumbled into one. He read the newspapers, and, it was said, wrote for them ; he corresponded, too, with the Jacobin clubs of the south, and strove to form similar clubs at home ; but the people were not yet sufficiently ripe. No one could say that he was disobliging or ill-tempered ; on the contrary, he was a favourite with, at least, his humbler town's-men for being much the reverse of both ; but he was poor and clever, and alike impatient of poverty, and of seeing the wealth of the country in the hands of duller men than himself ; and so the man who was unfortunate enough to be born to a thousand pounds a year had little chance of finding him either well-tempered or obliging. He had stepped into the ferry-boat one morning, and the ferrymen had set themselves to their oars, when a neighbouring proprietor came down to the beach, and called on them to return and take him aboard. "Get on!" shouted the Democrat, "and let the fellow wait ;—'tis I who have hired you this time." "O sir ! it's a shentleman," said one of the ferrymen, propelling the boat sternwards, as he spoke, by a back stroke of the oar. "Gentleman !" exclaimed the Democrat, seizing the boat-hook and pushing lustily in a contrary direction—"Gentleman truly !—we are all gentlemen, or shall be so very soon." The proprietor, meanwhile, made a dash at the rudder, and held fast, but with such good-will did the other ply the boat-hook, that ere he had made good a lodgment he was drenched to the armpits. "Nothing like being accustomed to hardship in time," muttered the Democrat, as, glancing his eye contemptuously on the dripping vestments of the proprietor, he laid down the pole and quietly resumed his seat.

There was about a dozen young men in the place who were so excited by the newspaper accounts of the superb pro-

cessions of their south-country friends, that they resolved on having a procession of their own. They procured a long pole with a Kilmarnock cap fixed to the one end of it, which they termed the cap of liberty, and a large square of cotton, striped blue, white, and red, which they called the tricolor of independence. In the middle stripe there were inscribed in huge Roman capitals, the words Liberty and Equality; and a stuffed cormorant, intended to represent an eagle, was perched on the top of the staff. They got a shipmaster of the place prevailed on to join with them. He was a frank, hearty sailor, who saw nothing unfair in the anticipated division of property, and hated a pressgang as he hated the devil. "But how," said he, "will we manage, after all hands have been served out, should a few of us take a *bouse* and melt our portions? just divide again, I suppose?" "Highly probable," replied the revolutionists; "but we have not yet fully determined on that." "I see, I see," rejoined the sailor, "everything can't be done at once." On the day of the procession he brought with him his crew attired in their best, and with all the ship flags mounted on poles. The revolutionists demurred. "To be sure," they said, "nothing could be finer; but then the flags were British flags." "And — it," said the master, "would you have me bring French flags." It was no time, however, to dispute the point; and the procession moved on, followed by all the children of the place. It reached an eminence directly above the links; and drawing up beside an immense pile of brushwood, and a few empty tar-barrels, its leader planted the tree of liberty amid shouts, and music, and the shooting of muskets, on the very spot on which the town gallows had been planted about two centuries before. No one, however, so much as thought of the circumstance; for people were too thoroughly excited to employ themselves with anything but the future; besides, a

very little ingenuity could have made it serve the purpose of either party. After planting the tree, the brushwood was fired, and a cask of whisky produced, out of which the republicans drank healths to liberty and the French. "The French! the French!" exclaimed the shipmaster. "Well, — them, I don't care though I do; here's health to the French; may they and I live long enough to speak to one another through twelve-pounders!" All the boys and all the sailors huzza'd; the republicans said nothing, but thought they had got rather a queer ally. The evening, however, passed off in capital style; and ere the crowd dispersed, they had burnt two fishing-boats, a salmon coble, and almost all the paling of the neighbouring fields and gardens.

The day of the procession was also that of a Redcastle market; at that time one of the chief cattle fairs of the north. It was largely attended on this occasion by Highlanders from the neighbouring straths, many of whom had fought for the Prince, and remembered the atrocities of Cumberland; it was attended, too, by parties of drovers from England and the southern counties of Scotland, all of them brimful of the modern doctrines, and scarcely more loyal than the Highlanders themselves; it was attended, besides, by a Cromarty salmon-fisher, George Hossack, a man of immense personal strength and high spirit, now a little past his prime perhaps, but so much a politician of the old school, that he would have willingly fought for his namesake the King with any two men at the Fair. But he was no match for everybody, and everybody to-day seemed to hold but one opinion. "Awfu' expensive government this of ours," said an East-Lothian drover; "we maun just try whether we canna manage it mair cheaply for ourselves." "Ay, and what a blockhead of a king we have got!" said an Englishman; "not fit, as Tom Paine says, for a country constable; but,

poor wretch, we must turn him about his business, and see whether he can't work like ourselves." "Och, but he's a limmer anyhow, and a creat plack whig!" remarked an old Highlander, "and has nae right till ta crown. No, na, Charlie my king!" Poor George was almost broken-hearted by the abuse poured out against his sovereign on every side of him; but what could he do? He would look first at one speaker, then at another, and repress his rising wrath by the consideration, that there was little wit in being angry with about three thousand people at once. He had driven a bargain with two Englishmen, and on going in to drink with them, according to custom, was shown into a room which chanced at the time, unlike every other room in the house, to be unoccupied. The Englishmen seated themselves at the table; George cautiously fastened the door, and took his place fronting them. "Now, gentlemen," said he, filling the glasses, "permit me to propose a toast:—Health and prosperity to George the Third." He drank off his glass, and set it down before him. One of the Englishmen, a bit of a wag in his way, looked at him with a droll, quizzical expression, and took up his. "Health and prosperity," he said, "to George the *herd*." "Well, young man," remarked George, "he is, as you say, a herd, and a very excellent one; allow me, however, to wish him a less unruly charge." "Health and prosperity," shouted out the other, "to George the —." This was unbearable: George sprang from his seat, and repaid the insult with a blow on the ear, which drove both man and glass to the floor. Up rose the other Englishman—up rose, too, the fallen one, and fell together upon George; but the cause of the King was never yet better supported. Down they both went, the one over the other, and down they went a second, and a third, and a fourth time; till at length, convinced that nothing could be more



imprudent than their attempts to rise, they lay just where they fell. George departed, after discharging the reckoning, leaving them to congratulate one another on their liberalism and their wit ; and reached Cromarty as the last gleam of the Jacobin bonfire was dancing on the chimney-tops, to learn that there was scarcely more loyalty among his town's-men than at the market, and that his favourite salmon-coble had perished among the flames about two hours before. I remember George—a shrewd, clear-headed man of eighty-two, full of anecdote and remark ; and I have derived not a few of my best traditions from him. But he is gone, and well-nigh forgotten ; and when the sexton of some future age shall shovel up his huge bones, the men who come to gaze on them may descant, as they turn them over, on modern degeneracy and the might of their fathers, but who among them all will know that they belonged to the last of the loyalists !

The day after the procession came on, pregnant with mystery and conjecture. Rider after rider entered the town, and assembled in front of the council-house ; the town's officer was sent for, together with the sergeant of a small recruiting party that barracked in one of the neighbouring lanes ; they then entered the hall, and made fast the doors. The country gentlemen, it was said, had come to put down the revolutionists. Shortly after, two of the soldiers and a constable glided into the house of the young Democrat, and producing a warrant for his apprehension, and the seizure of all his papers, hurried him away to the hall—the soldiers, with their bayonets fixed, guarding him on either side, and the constable, laden with a hamper of books and papers, bringing up the rear. In they all went, and the door closed as before. The curiosity of the town's-people was now awakened in right earnest, and an immense crowd gathered in front of the council-house ; but they could see or hear



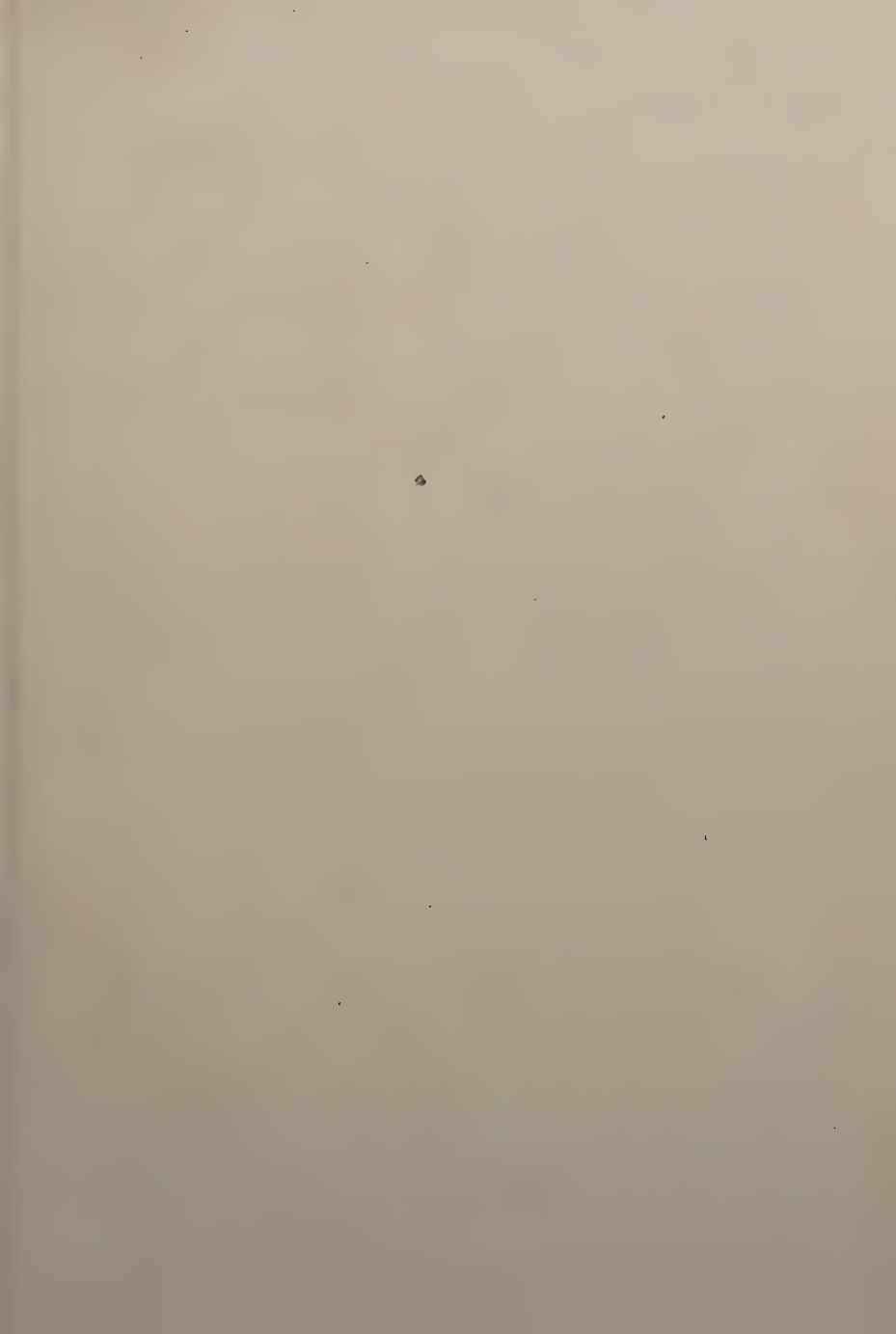
nothing. At length the door opened, and the sergeant came out; he looked round about him, and beckoned on George Hossack. "George," he said, "one of the London smacks has just entered the bay; you must board her and seize on all the parcels addressed to ———, the Jacobin merchant; there is an information lodged that he is getting a supply of pikes from London for arming the town's-people. Take the custom-house boatmen with you; and bring whatever you find to the hall. And hark ye, we must see and get up an effigy of the blackguard Tom Paine; try and procure some oakum and train-oil, and I'll furnish powder enough to blow him to Paris." Away went George, delighted with the commission, and returned in about an hour after, accompanied by some boatmen bearing two boxes large enough to contain pistols and pike-heads for all the men of the place. They were admitted into the hall, where they found the bench occupied by the town and county gentlemen—the soldiers ranged in the area in front, and the Republican, nothing abashed, standing at the bar. He had baffled all his judges, and had given them so much more wit and argument than they wanted, that they had ceased questioning him, and were now employed in turning over his papers. A letter written in cipher had been found on his person, and a gentleman, somewhat skilled in such matters, was examining it with much interest, while his more immediate neighbours were looking over his shoulders. "Bring forward the boxes, George," said one of the gentlemen. George placed them both on the large table fronting the bench, and proceeded to uncord them. The first he opened was filled with gingerbread, the other with girls' dolls and boys' whistles, and an endless variety of trinkets and toys of a similar class. Some of the elderly gentlemen took snuff and looked at one another; the younger laughed outright. "Have you deciphered that

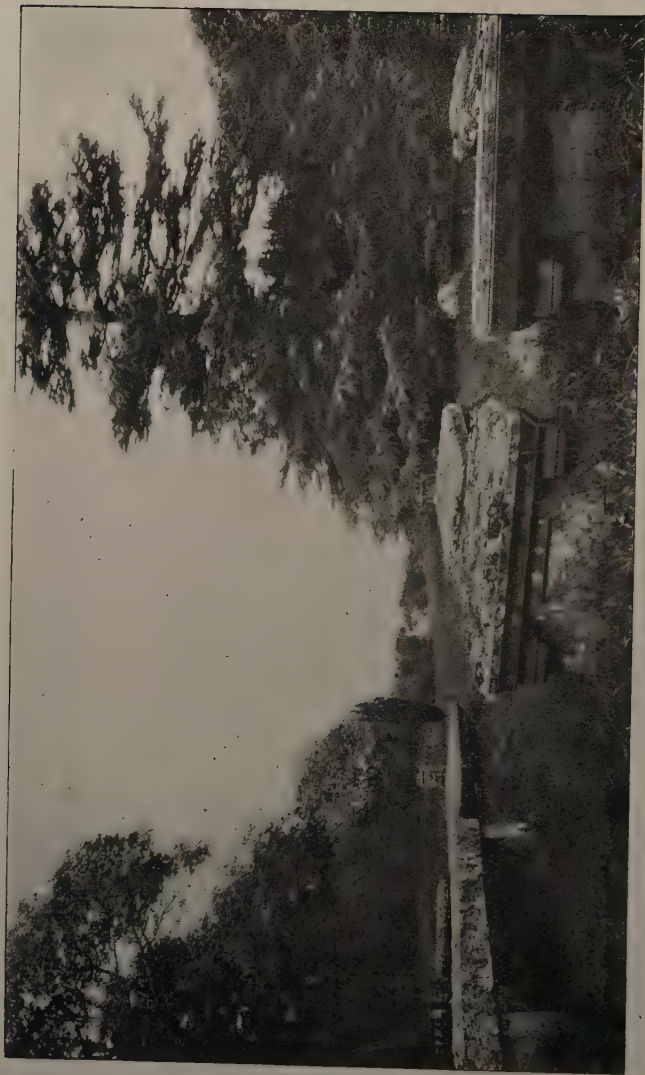
scrawl, Pointzfield?" inquired one of the more serious, with a view of restoring the court to its gravity. "Yes," said Pointzfield dryly enough, "I rather think I have." "Treasonable, of course," remarked the other. "No, not quite that now," rejoined the other, "whatever it might have been fifty years ago. It is merely a copy in shorthand of the old Jacobitical ballad, 'The Sow's Tail to Geordie.'" A titter ran along the bench as before, and the court broke up after determining that the Democrat should be sent to the jail of Tain to abide further trial, and that Paine should be burnt in effigy at the expense of the county. Paine was accordingly burnt; and all the children were gratified with a second procession and a second bonfire, quite as showy in their way as those of the preceding evening. The prisoner was escorted to Tain by a party of soldiers; and on his release, which took place shortly after, he quitted the country for London, where he became the editor of a newspaper on the popular side, which he conducted for many years with much spirit and some ability. Meanwhile, the revolutionary cause languished for lack of a leader; and on the declaration of war with France, sank entirely amid the stormy ebullitions of a feeling still more popular than the Republican one.

There are some passions and employments of the human mind which give it a sceptical bias, and others, apparently of a very similar nature, which incline it to credulity. So long as the revolutionary spirit stalked abroad, it seemed as if every other spirit stayed at home. The spectre slept quietly in its churchyard, and the wraith in its pool; the dead-light was hooded by an extinguisher, and the witch minded her own business without interfering with that of her neighbours. On the breaking out of the war, however, there came on a season of omens and prodigies, and the whole supernatural world seemed starting into as full activity as the fears and

hopes of the community. Armies were seen fighting in the air, amid the waving of banners and the frequent flashing of cannon; and the whole northern sky appeared for three nights together as if deluged with blood. In the vicinity of Inverness, shadowy bands of armed men were descried at twilight marching across the fields—at times half enveloped in smoke, at times levelling their arms as if for the charge. There was an ominously warlike spirit, too, among the children, which the elderly people did not at all like; they went about, just as before the American war, with their mimic drums and fifes, and their muskets and halberts of elder, disturbing the whole country with their uncouth music, and their zeal against the French. Then came the tug of war; trade sank; and many of the mechanics of the place flung aside their tools and entered the army or navy. Party spirit died; the Whigs forgot everything but that they were Britons; and when orders came that such of the males of the place as volunteered their services should be embodied into a kind of domestic militia, old men of seventy and upwards, some of whom had fought at Culloden, and striplings of fifteen, who had not yet left school, came to the house of their future colonel, begging to be enrolled and furnished with arms. In less than two days every man in the town and parish was a soldier. Then came the stories of our great sea victories: the glare of illuminations and bonfires; the general anxiety when the intelligence first arrived that a battle had been fought, and the general sadness when it was ascertained that a townsman had fallen. When the news of Duncan's victory<sup>1</sup> came to the town, a little girl, who had a brother a sailor, ran more than three miles into the country, to a field in which her mother was employed in digging

<sup>1</sup> Camperdown, 1797.





THE CHAPEL-YARD OF ST. REGULUS

potatoes, and falling down at her feet, had just breath enough left to say, "Mither, mither, the Dutch are beaten, and Sandy's safe." The report of a threatened invasion knit the people still more firmly together, and they began to hate the French, not merely as national, but also as personal enemies. And thus they continued to feel, till at length the battle of Waterloo, by terminating the war, reduced them to the necessity of seeking, as before, their enemies at home.—  
(*Scenes and Legends.*)

---

## VIII

## IN THE CHAPEL-YARD OF ST. REGULUS

[The chaplainry of St. Regulus was founded and endowed by the burghers of Cromarty probably not before the end of the fourteenth century. Attached to the chapel was the burial vault of the hereditary Sheriffs, the Urquharts, of which family Sir Thomas Urquhart, the translator of Rabelais, was the most famous member. Around lies the ancient burying-ground of the burgh. The chapel has now disappeared. The following passage shows clearly in its tone and cadences the influence of *The Vision of Mirza*, Miller having been a close student and literary follower of Addison.]

ONE night, towards the close of last autumn, I visited the old chapel of St. Regulus. The moon, nearly at full, was riding high overhead in a troubled sky, pouring its light by fits, as the clouds passed, on the grey ruins, and the mossy, tilt-like hillocks, which had been raised ages before over the beds of the sleepers. The deep, dark shadows of the tombs seemed stamped upon the sward, forming, as one might imagine, a kind of general epitaph on the dead, but inscribed, like the



handwriting on the wall, in the characters of a strange tongue. A low breeze was creeping through the long withered grass at my feet; a shower of yellow leaves came rustling, from time to time, from an old gnarled elm that shot out its branches over the burying-ground—and, after twinkling for a few seconds in their descent, silently took up their places among the rest of the departed; the rush of the stream sounded hoarse and mournful from the bottom of the ravine, like a voice from the depths of the sepulchre; there was a low, monotonous murmur, the mingled utterance of a thousand sounds of earth, air, and water, each one inaudible in itself: and, at intervals, the deep, hollow roar of waves came echoing from the caves of the distant promontory, a certain presage of coming tempest. I was much impressed by the melancholy of the scene. I reckoned the tombs one by one. I pronounced the names of the tenants. I called to remembrance the various narratives of their loves and their animosities, their joys and their sorrows. I felt, and there was a painful intensity in the feeling, that the gates of death had indeed closed over them, and shut them out from the world for ever. I contrasted the many centuries which had rolled away ere they had been called into existence, and the ages which had passed since their departure, with the little brief space between—that space in which the Jordan of their hopes and fears had leaped from its source, and after winding through the cares, and toils, and disappointments of life, had fallen into the Dead Sea of the grave; and as I mused and pondered—as the flood of thought came rushing over me—my heart seemed dying within me, for I felt that, as one of this hapless race, vanity of vanity was written on all my pursuits and all my enjoyments, and that death, as a curse, was denounced against me.—(*Scenes and Legends.*)





### THE TOMBSTONE OF SANDY WOOD

"At one place we see a flat tombstone lying a few yards outside the mound

## IX

## THE STORY OF SANDY WOOD

THE old enclosure of the burying-ground, which seems originally to have been an earthen wall, has now sunk into a grassy mound, and on the southern and western sides some of the largest trees of the fence—a fine stately ash, fluted like a Grecian column, a huge elm roughened over with immense wens, and a low bush larch with a bent, twisted trunk, and weeping branches—spring directly out of it. At one place we see a flat tombstone lying a few yards outside the mound. The trees which shoot up on every side fling so deep a gloom over it during the summer and autumn months, that we can scarcely decipher the epitaph; and in winter it is not unfrequently buried under a wreath of withered leaves. By dint of some little pains, however, we come to learn from the darkened and half-dilapidated inscription, that the tenant below was one Alexander Wood, a native of Cromarty, who died in the year 1690; and that he was interred in this place at his own especial desire. His wife and some of his children have taken up their places beside him; thus lying apart like a family of hermits; while his story—which, almost too wild for tradition itself, is yet as authentic as most pieces of written history—affords a curious explanation of the circumstance which directed their choice.

Wood was a man of strong passions, sparingly gifted with common sense, and exceedingly superstitious. No one could be kinder to one's friends or relatives, or more hospitable to a stranger; but when once offended, he was implacable. He had but little in his power either as a friend or an enemy—his course through the world lying barely beyond the bleak edge of poverty. If a neighbour, however, dropped in by

accident at meal-time, he would not be suffered to quit his house until he had shared with him his simple fare. There was benevolence in the very grasp of his hand and the twinkle of his eye, and in the little set speech, still preserved by tradition, in which he used to address his wife every time an old or mutilated beggar came to the door:—"Alms, gudewife," he would say; "alms to the cripple, and the blin', and the broken-down." When injured or insulted, however, and certainly no one could do either without being very much in the wrong, there was a toad-like malignity in his nature, that would come leaping out like the reptile from its hole, and no power on earth could shut it up again. He would sit hatching his venom for days and weeks together with a slow, tedious, unoperative kind of perseverance, that achieved nothing. He was full of anecdote; and, in all his stories, human nature was exhibited in only its brightest lights and its deepest shadows, without the slightest mixture of that medium tint which gives colour to its working, everyday suit. Whatever was bad in the better class, he transferred to the worse, and *vice versa*; and thus not even his narratives of the supernatural were less true to nature and fact than his narratives of mere men and women. And he dealt with the two classes of stories after one fashion—lending the same firm belief to both alike.

In the house adjoining the one in which he resided, there lived a stout little man, a shoemaker, famous in the village for his great wit and his very considerable knavery. His jokes were mostly practical, and some of the best of them exceedingly akin to felonies. Poor Wood could not understand his wit, but, in his simplicity of heart, he deemed him honest, and would fain have prevailed on the neighbours to think so too. He knew it, he said, by his very look. Their gardens, like their houses, lay contiguous, and were separated



from each other, not by a fence, but by four undressed stones laid in a line. Year after year was the garden of Wood becoming less productive; and he had a strange misgiving, but the thing was too absurd to be spoken of, that it was growing smaller every season by the breadth of a whole row of cabbages. On the one side, however, were the back walls of his own and his neighbour's tenements, the four large stones stretched along the other; and nothing, surely, could be less likely than that either the stones or the houses should take it into their heads to rob him of his property. But the more he strove to exclude the idea the more it pressed upon him. He measured and remeasured to convince himself that it was a false one, and found that he had fallen on just the means of establishing its truth. The garden was actually growing smaller. But how? Just because it was bewitched! It was shrinking itself under the force of some potent enchantment, like a piece of plaiding in the fulling-mill. No hypothesis could be more congenial; and he would have held by it, perhaps, until his dying day, had it not been struck down by one of those chance discoveries which destroy so many beautiful systems and spoil so much ingenious philosophy, quite in the way that Newton's apple struck down the vortices of Descartes.

He was lying a-bed one morning in spring, about day-break, when his attention was excited by a strange noise which seemed to proceed from the garden. Had he heard it two hours earlier, he would have wrapped up his head in the bedclothes and lain still; but now that the cock had crowed, it could not, he concluded, be other than natural. Hastily throwing on part of his clothes, he stole warily to a back window, and saw, between him and the faint light that was beginning to peep out in the east, the figure of a man, armed with a lever, tugging at the stones. Two had already been



shifted a full yard nearer the houses, and the figure was straining over a third. Wood crept stealthily out at the window, crawled on all fours to the intruder, and, tripping up his heels, laid him across his lever. It was his knavish neighbour the shoemaker. A scene of noisy contention ensued; groups of half-dressed town's-folk, looming horrible in their shirts and nightcaps through the grey of morning, came issuing through the lanes and the closes; and the combatants were dragged asunder. And well was it for the shoemaker that it happened so; for Wood, though in his sixtieth year, was strong enough, and more than angry enough, to have torn him to pieces. Now, however, that the warfare had to be carried on by words, the case was quite reversed.

"Neebours," said the shoemaker, who had the double advantage of being exceedingly plausible, and decidedly in the wrong, "I'm desperately ill-used this morning—desperately ill-used; he would baith rob and murder me. I lang jaloused, ye see, that my wee bit o' a yard was growing littler and littler ilka season; and, though no very ready to suspect folk, I just thought I would keep watch, and see wha was shifting the mark-stanes. Weel, and I did;—late and early did I watch for mair now than a fortnight; and wha did I see this morning through the back winnock<sup>1</sup> but auld Sandy Wood there in his verra sark—Oh, it's no him that has ony thought o' his end!—poking the stones wi' a lang kebar,<sup>2</sup> intil the very heart o' my grun'? See," said he, pointing to the one that had not yet been moved, "see if he hasna shifted it a lang ell; and only notice the craft o' the bodie in turring up the yird<sup>3</sup> about the lave,<sup>4</sup> as if they had been a' moved frae my side. Weel, I came out and challenged him, as wha

<sup>1</sup> Little window.

<sup>2</sup> Pole.

<sup>3</sup> Earth.

<sup>4</sup> Remainder.

widna? Says I, Sawney, my man, that's no honest; I'll no bear that; and nae mair had I time to say, when up he flew at me like a wull-cat, and if it wasna for yoursels I daresay he would hae throttled me. Look how I am bleedin';—and only look till him—look till the cankart,<sup>1</sup> deceitful bodie, if he has one word to put in for himsel'."

There was truth in, at least, this last assertion; for poor Wood, mute with rage and astonishment, stood listening, in utter helplessness, to the astounding charge of the shoemaker—almost the very charge he himself had to prefer. Twice did he spring forward to grapple with him, but the neighbours held him back, and every time he essayed to speak, his words—massed and tangled together, like wreaths of sea-weed in a hurricane—stuck in his throat. He continued to rage for three days after, and when the eruption had at length subsided, all his former resentments were found to be swallowed up, like the lesser craters of a volcano, in the gulf of one immense hatred.

His house, as has been said, lay contiguous to the house of the shoemaker, and he could not avoid seeing him, every time he went out and came in—a circumstance which he at first deemed rather gratifying than otherwise. It prevented his hatred from becoming vapid by setting it a-working at least ten times a day, as a musket would a barrel of ale if discharged into the bunghole. Its frequency, however, at length sickened him, and he had employed a mason to build a stone wall, which, by stretching from side to side of the close, was to shut up the view, when he sickened in right earnest, and at the end of a few days found himself a-dying. Still, however, he was possessed by his one engrossing resentment. It mingled with all his thoughts of the past and the future;

<sup>1</sup> Ill-tempered.

and not only was he to carry it with him to the world to which he was going, but also to leave it behind as a legacy to his children. Among his many other beliefs, there was a superstition, handed down from the times of the monks, that at the day of final doom all the people of the sheriffdom were to be judged on the moor of Navity;<sup>1</sup> and both the judgment and the scene of it he had indissolubly associated with the shoemaker and the four stones. Experience had taught him the importance of securing a first hearing for his story; for was his neighbour, he concluded, to be beforehand with him, he would have as slight a chance of being righted at Navity as in his own garden. After brooding over the matter for a whole day, he called his friends and children round his bed, and raised himself on his elbow to address them.

"I'm wearing awa', bairns and neebors," he said, "and it vexes me sair that that wretched bodie should see me going afore him. Mind, Jock, that ye'll build the dike, and make it heigh, heigh, and stobbie on the top; and oh! keep him out o' my lykewake, for should he but step in at the door, I'll rise, Jock, frae the verra straiiking-board, and do murder! Dinna let him so muckle as look on my coffin. I have been pondering a' this day about the meeting at Navity, and the march-stanes; and I'll tell you, Jock, how we'll match him. Bury me ayont the saint's dike at the Navity side, and dinna lay me deep. Ye ken the bonny green hillock, spreckled o'er wi' gowans and puddock-flowers—bury me there, Jock; and yersel', and the auld wife, may just, when your hour comes, tak up your places beside me. We'll a' get up at the first tout—the ane helpin' the other; and I'se wad<sup>2</sup> a' I'm worth i' the warld, we'll be half-way up at Navity afore the shochlan,<sup>3</sup>

<sup>1</sup> Gaelic *Neimhidh*, "church-land," having had three chapels in ante-Reformation times: a district, now a farm, a few miles from the town.

<sup>2</sup> Wager.

<sup>3</sup> Waddling.

short-legged bodie wins o'er the dike." Such was the dying injunction of Sandy Wood : and his tombstone still remains to testify that it was religiously attended to. An Englishman who came to reside in the parish, nearly an age after, and to whom the story must have been imparted in a rather imperfect manner, was shocked by what he deemed his unfair policy. The litigants, he said, should start together ; he was certain it would be so in England, where a fair field was all that would be given to St. Dunstan himself though he fought with the devil. And that it might be so here, he buried the tombstone of Wood in an immense heap of clay and gravel. It would keep him down, he said, until the little fellow would have clambered over the wall. The town's-folk, however, who were better acquainted with the merits of the case, shovelled the heap aside ; and it now forms two little hillocks which overtop the stone, and which, from the nature of the soil, are still more scantily covered with verdure than any part of the surrounding bank.—  
*(Scenes and Legends.)*

---

X
SANDY WRIGHT<sup>1</sup> AND THE PUIR ORPHAN

EARLY in the month of April, 1734, three Cromarty boatmen, connected with the custom-house, were journeying along the miserable road which at this period winded between the capital of the Highlands and that of the kingdom. They had already travelled since morning more than thirty miles through the wild highlands of Inverness-shire, and were now

<sup>1</sup> Miller's maternal great-grandfather.

toiling along the steep side of an uninhabited valley of Badenoch. A dark sluggish morass, with a surface as level as a sheet of water, occupied the bottom of the valley; a few scattered tufts of withered grass were mottled over it, but the unsolid, sooty-coloured spaces between were as bare of vegetation as banks of sea-mud left by the receding tide. On either hand, a series of dreary mountains thrust up their jagged and naked summits into the middle sky. A scanty covering of heath was thrown over their bases, except where the frequent streams of loose *débris* which had fallen from above, were spread over them; but higher up, the heath altogether disappeared, and the eye rested on what seemed an endless file of bare, gloomy cliffs, partially covered with snow.

The evening, for day was fast drawing to a close, was as melancholy as the scene. A dense volume of grey cloud hung over the valley like a ceiling, and seemed descending along the cliffs. There was scarcely any wind, but at times a wreath of vapour would come rolling into a lower region of the valley, as if shot out from the volume above; and the chill, bleak air was filled with small specks of snow, so light and fleecy that they seemed scarcely to descend, but, when caught by the half-perceptible breeze, went sailing past the boatmen in long horizontal lines. It was evident there impended over them one of those terrible snow-storms which sometimes overwhelm the hapless traveller in these solitudes; and the house in which they were to pass the night was still nearly ten miles away.

The gloom of evening, deepened by the coming storm, was closing around them as they entered one of the wildest recesses of the valley, an immense precipitous hollow scooped out of the side of one of the hills; the wind began to howl through the cliffs, and the thickening flakes of snow to beat

against their faces. "It will be a terrible night, lads, in the Moray Firth," said the foremost traveller, a broad-shouldered, deep-chested, strong-looking man, of about five feet eight; "I would ill like to hae to beat up through the drift along the rough shores o' Caddboll. It was in just such a night as this, ten year ago, that old Walter Hogg went down in the *Red Sally*."—"It will be as terrible a night, I'm feared, just where we are, in the black strath o' Badenoch," said one of the men behind, who seemed much fatigued; "I wish we were a' safe i' the clachan."—"Hoot, man," said Sandy Wright, the first speaker, "it canna now be muckle mair than sax miles afore us, an' we'll hae the tail o' the gloamin' for half an hour yet. But, gude safe us! what's that?" he exclaimed, pointing to a little figure that seemed sitting by the side of the road, about twenty yards before him; "it's surely a fairy!" The figure rose from its seat, and came up, staggering apparently from extreme weakness, to meet them. It was a boy scarcely more than ten years of age. "O, my puir boy!" said Sandy Wright, "what can hae taken ye here in a night like this?"—"I was going to Edinburgh to my friends," replied the boy, "for my mother died and left me among the *freme*;<sup>1</sup> but I'm tired, and canna walk farther; and I'll be lost, I'm feared, in the *yowndrift*."<sup>2</sup>—"That ye winna, my puir bairn," said the boatman, "if I can help it; gi'es a haud o' your han'," grasping, as he spoke, the extended hand of the boy; "dinna tine heart, an' lean on me as muckle's ye can." But the poor little fellow was already exhausted, and, after a vain attempt to proceed, the boatman had to carry him on his back. The storm burst out in all its fury; and the travellers, half suffocated, and more than half blinded, had to grope onwards along the

<sup>1</sup> Strangers.

<sup>2</sup> Or *youden-drift*, snow driven by the wind.



rough road, still more roughened by the snow-wreaths that were gathering over it. They stopped at every fiercer blast, and turned their backs to the storm to recover breath; and every few yards they advanced, they had to stoop to the earth to ascertain the direction of their path, by catching the outline of the nearer objects between them and the sky. After many a stumble and fall, however, and many a groan and exclamation from the two boatmen behind, who were well-nigh worn out, they all reached the clachan in safety about two hours after nightfall.

The innates were seated round an immense peat fire, placed, according to the custom of the country, in the middle of the floor. They made way for the travellers; and Sandy Wright, drawing his seat nearer the fire, began to chafe the hands and feet of the boy, who was almost insensible from cold and fatigue. "Bring us a mutchkin'<sup>1</sup> o' brandy here," said the boatman, "to drive out the cauld frae our hearts; an', as supper canna be ready for a while yet, get me a piece bread for the boy. He has had a narrow escape, puir little fellow; an' maybe there's some that would miss him, lanerly as he seems. Only hear how the win' roars on the gable, an' rattles at the winnocks and the door. It's an awfu' night in the Moray Firth."

"It's no gude," continued the boatman, as he tendered a half glass of the brandy and a cake of bread to his *protégé*, "it's no gude to be ill-set to boys. My own loon, Willie, that's the liftenant<sup>2</sup> now, taught me á lesson o' that. He was a wild roytous laddie, fu' o' droll mischief, an' desperately fond o' doos an' rabbits. He had a doo's nest out in the

<sup>1</sup> Half a Scotch pint, equal to an English quart.

<sup>2</sup> Served under Admiral Vernon and fell at Carthagená (1739): see *My Schools and Schoolmasters*, p. 34 (Ed. 1905).

Crookburn Wood; but he was muckle in the dread o' fighting Rob Moffat, the gamekeeper; an', on the day it was ripe for harrying, what did he do but set himself to watch Rob, at his house at the Mains? He saw him setting off to the hill, as he thought, wi' his gun an' his twa dogs; an' then awa sneaks he to the burn, thinking himsel' out o' Rob's danger. He could climb like a cat, an' so up he clamb to the nest; an' then wi' his bonnet in his teeth, an' the twa doos in his bonnet, he drapped down frae branch to branch. But, as ill luck would hae it, the first thing he met at the bottom was muckle Rob. The cankered wretch raged like a madman, an' laying hold on the twa birds by the feet, he dawded<sup>1</sup> them about Willie's face till they were baith massacred. It was an ill-hearted cruel thing; an', had I been there, I would hae tauld him sae on the deafest side o' his head, lang though he be. Willie cam' hame wi' his chafts<sup>2</sup> a' swelled an' bluidy, an' the greet, puir chield, in his throat, for he was as muckle vexed as hurt. He was but a thin slip o' a callant at the time; but he had a high spirit, an', just out o' the healey,<sup>3</sup> awa he went in young Captain Robinson's lugger, an' didna come near the place, though he sent his mither pennies now an' then by the Campvere traders, for about five years. Weel, back he cam' at last, a stalwart young fallow o' sax feet, wi' a grip that would spin the bluid out at the craps o' a chield's fingers; an' we were a' glad to see him! 'Mither,' said he, 'is fighting Rob Moffat at the Mains yet?' 'O ay!' quo' she. 'Weel, then, I think I'll call on him in the morning,' says he, 'an' clear aff an old score wi' him;' an' his brow grew black as he spoke. We baith kent what was working wi' him; an', after bedtime, his mither, puir body, gaed up a' the length o' the Mains to warn Rob to keep out

<sup>1</sup> Banged.<sup>2</sup> Jaws.<sup>3</sup> Affront.

o' the way. An' weel did he do that; for, for the three weeks that Willie stayed at hame wi' us, not a bit o' Rob was to be seen at either kirk or market.—Puir Willie, he has got fighting enough sinsyne."

Sandy Wright shared with the boy his supper and his bed; and, on setting out on the following morning, he brought him along with him, despite the remonstrances of the other boatmen, who dreaded his proving an incumbrance. The story of the little fellow, though simple, was very affecting. His mother, a poor widow, had lived for the five preceding years in the vicinity of Inverness, supporting herself and her boy by her skill as a seamstress. As early as his sixth year he had shown a predilection for reading; and, with the anxious solicitude of a Scotch mother, she had wrought late and early to keep him at school. But her efforts were above her strength, and, after a sore struggle of nearly four years, she at length sank under them. "Oh!" said the boy to his companion, "often would she stop in the middle of her work, and lay her hand on her breast, and then she would ask me what would I do when she would be dead—and we would both greet. Her fingers grew white and sma', and she couldna sit up at nights as before; but her cheeks were redder and bonnier than ever, and I thocht that she surely wouldna die—she has told me that she wasna eighteen years older than mysel'. Often, often when I waukened in the morning, she would be greeting at my bedside; and I mind one day, when I brought home the first prize from school, that she drew me till her, an' told me, wi' a tear in her e'e, that the day would come, when her head would be low, that my father's gran' friends, who were ashamed o' her because she was poor, would be proud that I was connected wi' them. She soon couldna hold up her head at all, and if it wasna for a neighbour woman, who hadna muckle to spare, we would

have starved. I couldna go to the school, for I needed to stay and watch by her bedside, and do things in the house; and it vexed her more that she was keeping me from my learning, than that hersel' was sae ill. But I used to read chapters to her out of the Bible. One day when she was very sick, two neighbour women came in, and she called me to her and told me that when she would be dead I would need to go to Edinburgh, for I had no friends anywhere else. Her own friends were there, she said, but they were poor, and couldna do muckle for me; and my father's friends were there too, and they were gran' and rich, though they wadna own her. She told me no to be feared by the way, for that Providence kent every bit o't, and He would make folk to be kind to me; and then she kissed me, and grat, and bade me go to the school. When I came out she was lying wi' a white cloth on her face, and the bed was all white. She was dead; and I could do nothing but greet a' that night; and she was dead still. I'm now travelling to Edinburgh, as she bade me, and folk are kind to me just as she said; and I have letters to show me the way to my mother's friends when I reach the town; for I can read write." Such was the narrative of the poor boy.

Throughout the whole of the journey, Sandy Wright was as a father to him. He shared with him his meals and his bed, and usually for the last half dozen miles of every stage he carried him on his back. On reaching the Queensferry, however, the boatman found that his money was wellnigh expended. I must just try and get him across, thought he, without paying the fare. The boat had reached the middle of the ferry, when one of the ferrymen, a large, gruff-looking fellow, began to collect the freight. He passed along the passengers, one after one, and made a dead stand at the boy. "Oh!" said Sandy Wright, who sat by him, "dinna stop at

that boy—it's a puir orphan; see, here's my groat." The ferryman, still held out his hand. "It's a puir orphan," reiterated the boatman; "we found him bewildered, on the bursting out o' the last storm, in a dismal, habitless glen o' Badenoch, an' we've ta'en him wi' us a' the way, for he's going to seek his friends at Edinburgh; surely ye'll no grudge him a passage?" The ferryman, without deigning him a reply, plucked off the boy's bonnet; the boatman instantly twitched it out of his hand. "Hoot, hoot, hoot!" he exclaimed, "the puir faitherless and motherless boy?—ye'll no do that?" "Take tent,<sup>1</sup> my man," he added, for the ferryman seemed doggedly resolved on exacting the hire; "take tent; we little ken what may come o' oursel's yet, forbye our bairns." "By ——, boatman, or whatever ye be," said the ferryman, "I'll hae either the fare or the fare's worth, though it should be his jacket;" and he again laid hold on the boy, who began to cry. Sandy Wright rose from his seat in a towering passion. "Look ye, my man," said he, as he seized the fellow by the collar with a grasp that would have pulled a bull to the ground, "little hauds me from pitching ye out owre the gunwale. Only crook a finger on the poor thing, an' I'll knock ye down, man, though ye were as muckle as a bullock. Shame! shame ye for a man!—ye hae nae mair natural feeling than a sealchie's bubble."<sup>2</sup> The cry of shame! shame! was echoed from the other passengers, and the surly ferryman gave up the point.

"An' now, my boy," said the boatman as they reached the West Port, "I hae business to do at the Customhouse, an' some money to get; but I maun first try and find out your friends for you. Look at the letters and tell me the street where they put up." The boy untied his little bundle, which

<sup>1</sup> Care.<sup>2</sup> Jelly-fish.



contained a few shirts and stockings, a parcel of papers, and a small box. "What's a' the papers about?" inquired the boatman; "an' what hae ye in the wee box?"—"My mither," said the boy, "bade me be sure to keep the papers, for they tell of her marriage to my father; and the box hauds her ring. She could have got money for it when she was sick and no able to work, but she would sooner starve, she said, than part wi' it; and I wadna like to part wi' it, either, to ony bodie but yoursel'—but if ye would take it?" He opened the box and passed it to his companion. It contained a valuable diamond ring. "No, no, my boy," said the boatman, "that widna do; the ring's a bonny ring, an' something hye ordinar, though I be no judge; but, blessings on your heart! tak' ye care o't, an' part wi't on no account to ony bodie;—Hae ye found out the direction?" The boy named some place in the vicinity of the Cowgate, and in a few minutes they were both walking up the Grassmarket.

"O, yonder's my aunt!" exclaimed the boy, pointing to a young woman who was coming down the street; "yonder's my mither's sister;" and away he sprang to meet her. She immediately recognised and welcomed him; and he introduced the boatman to her as the kind friend who had rescued him from the snow-storm and the ferryman. She related in a few words the story of the boy's parents. His father had been a dissipated young man of good family, whose follies had separated him from his friends; and the difference he had rendered irreconcilable by marrying a low-born but industrious and virtuous young woman, who, despite of her birth, was deserving of a better husband. In a few years he had sunk into indifference and contempt; and, in the midst of a wretchedness which would have been still more complete had it not been for the efforts of his wife, he was seized with a fever, of which he died. "Two of his brothers," said the



woman, "who are gentlemen of the law, were lately inquiring about the boy, and will, I hope, interest themselves in his behalf." In this hope the boatman cordially acquiesced. "An' now, my boy," said he, as he bade them farewell, "I have just one groat left yet—here it is; better in your pocket than wi' the gruff carle at the ferry. It's an honest groat, anyhow; and I'm sure I wish it luck."

Eighteen years elapsed before Sandy Wright again visited Edinburgh. He had quitted it a robust, powerful man of forty-seven, and he returned to it a grey-headed old man of sixty-five. His humble fortunes, too, were sadly in the wane. His son, William, a gallant young fellow, who had risen in a few years, on the score of merit alone, from the fore-castle to a lieutenantcy, had headed, under Admiral Vernon, some desperate enterprise, from which he never returned: and the boatman himself, when on the eve of retiring on a small pension from his long service in the Customhouse, was dismissed without a shilling, on the charge of having connived at the escape of a smuggler. He was slightly acquainted with one of the inferior clerks in the Edinburgh Customhouse; and in the slender hope that this person might use his influence in his behalf and that that influence might prove powerful enough to get him reinstated, he had now travelled from Cromarty to Edinburgh, a weary journey of nearly two hundred miles. He had visited the clerk, who had given him scarcely any encouragement, and he was now waiting for him in a street near Brown Square, where he had promised to meet him in less than half an hour. But more than two hours had elapsed; and Sandy Wright, fatigued and melancholy, was sauntering slowly along the street, musing on his altered circumstances, when a gentleman, who had passed him with the quick, hurried step of a person engaged in business, stopped abruptly a few yards away, and returning at a much

slower pace, eyed him steadfastly as he repassed. He again came forward and stood. "Are you not Mr. Wright?" he inquired. "My name, sir, is Sandy Wright," said the boatman, touching his bonnet. The face of the stranger glowed with pleasure, and grasping him by the hand, "Oh, my good, kind friend, Sandy Wright!" he exclaimed, "often, often, have I inquired after you, but no one could tell me where you resided, or whether you were living or dead. Come along with me—my house is in the next square. What! not remember me; ah, but it will be ill with me when I cease to remember you! I am Hamilton, an advocate—but you will scarcely know me as that."

The boatman accompanied him to an elegant house in Brown Square, and was ushered into a splendid apartment, where there sat a Madonna-looking young lady, engaged in reading. "Who of all the world have I found," said the advocate to the lady, "but good Sandy Wright, the kind, brave man who rescued me when perishing in the snow, and who was so true a friend to me when I had no friend besides." The lady welcomed the boatman with one of her most fascinating smiles, and held out her hand. "How happy I am," she said, "that we should have met with you! Often has Mr. Hamilton told me of your kindness to him, and regretted that he should have no opportunity of acknowledging it." The boatman made one of his best bows, but he had no words for so fine a lady.

The advocate kindly inquired after his concerns, and was told of his dismissal from the Customhouse. "I'll vouch!" he exclaimed, "it was for nothing an honest man should be ashamed of."—"Oh! only a slight matter, Mr. Hamilton," said the boatman: "an' troth, I couldna weel do other than I did though I should hae to do't o'er again. Captain Robinson o' the Free Trade was on the coast o' Cadboll

last har'st, about the time o' the *Equinoxal*, unlading a cargo o' Hollands, whan on cam' the storm o' the season, an' he had to run for Cromarty to avoid shipwreck. His loading was mostly out, except a few orra<sup>1</sup> kegs that might just make his lugger seizable if folk gied a wee owre strict. If he could but show, however, that he had been at the Isle o' Man, an' had been forced into the Firth by mere stress o' weather frae his even course to Flushing, it would set him clear out o' our danger. I had a strong liking to the Captain, for he had been unco kind to my poor Willie, that's dead now; an' when he tauld our officer that he had been at Man, an' the officer asked for proof, I contrived to slide twa Manks baubees intil his han', an' he held them out just in a careless way, as if he had plenty mair proof besides. Weel, this did, an' the puir chield wan aff; but hardly was he down the Firth when out cam' the haill story. Him they couldna harm, but me they could: an' after muckle ill words (an' I had to bear them a' for I'm an auld failed man now), instead o' getting retired on a pension for my forty years' service, I was turned aff without a shilling. I have an acquaintance in the Customhouse here, Mr. Scrabster the clerk; an' I came up ance errand to Edinburgh in the hope that he might do something for me; but he's no verra able, I'm thinking, an' I'm feared no verra willing; an' so, Mr. Hamilton, I just canna help it. My day, o' coorse o' nature, canna be verra lang, an' Providence, that has aye carried me through as yet, winna surely let me stick now."—"Ah no, my poor friend!" said the advocate. "Make up your mind, however, to stay for a few weeks with Helen and me, and I'll try in the meantime what my little influence may be able to do for you at the Customhouse."

<sup>1</sup> Odd.

A fortnight passed away very agreeably to the boatman. Mrs. Hamilton, a fascinating young creature of very superior mental endowments, was delighted with his character and his stories :—the latter opened to her a new chapter in her favourite volume—the book of human life ; and the advocate, a man of high talent and a benevolent heart, seemed to regard him with the feelings of an affectionate son. At length, however, he began to weary sadly of what he termed the life of a gentleman, and to sigh after his little smoky cottage, and “the puir auld wife.” “Just remain with us one week longer,” said the advocate, “and I shall learn in that time the result of my application. You are not now quite so active a man as when you carried me ten miles through the snow, and frightened the tall ferryman, and so I shall secure for you a passage in one of the Leith traders.” In a few days after, when the boatman was in the middle of one of his most interesting stories, and Mrs. Hamilton hugely delighted, the advocate entered the apartment, his eyes beaming with pleasure, and a packet in his hand. “This is from London,” he said, as he handed it to the lady ; “it intimates to us, that ‘Alexander Wright, Customhouse boatman,’ is to retire from the service on a pension of twenty pounds per annum.”—But why dwell longer on the story ? Sandy Wright parted from his kind friends, and returned to Cromarty, where he died in the spring of 1769, in the eighty-second year of his age. “Folk hae aye to learn,” he used to say, “an’, for my own pairt, I was a saxty-year-auld scholar afore I kent the meaning o’ the verse, ‘Cast thy bread on the waters, and thou shalt find it after many days.’”

—(*Scenes and Legends.*)

---

## XI

## THE BURN OF EATHIE

## 1

WE enter this singular recess along the bed of the stream, and find ourselves shut out, when we have advanced only a few paces, from well-nigh the entire face of nature and the whole works of man. A line of mural precipices rises on either hand—here advancing in gigantic columns, like those of an Egyptian portico—there receding into deep solitary recesses tapestried with ivy, and darkened by birch and hazel. The cliffs vary their outline at every step, as if assuming in succession all the various combinations of form which constitute the wild and the picturesque; and the pale yellow hue of the stone seems, when brightened by the sun, the very tint a painter would choose to heighten the effect of his shades, or to contrast most delicately with the luxuriant profusion of bushes and flowers that waves over every shelve and cranny. A colony of swallows have built from time immemorial in the hollows of one of the loftiest precipices; the fox and the badger harbour in the clefts of the steeper and more inaccessible banks. As we proceed, the dell becomes wilder and more deeply wooded, the stream frets and toils at our feet—here leaping over an opposing ridge, there struggling in a pool, yonder escaping to the light from under some broken fragment of cliff—there is a richer profusion of flowers; a thicker mantling of ivy and honeysuckle;—and, after passing a semicircular inflection of the bank, which, waving from summit to base with birch and hawthorn, seems suited to remind one of some vast amphitheatre on the morning of a triumph, we find the passage shut up by a perpendicular wall of rock about thirty feet in height, over





#### IN EATHIE BURN

"As we proceed, the dell becomes wilder and more deeply wooded, the stream frets and toils at our feet—here leaping over an opposing ridge, there struggling in a pool, yonder escaping to the light from under some broken fragment of cliff"





which the stream precipitates itself in a slender column of foam into a dark mossy basin. The long arms of an intermingled clump of birches and hazels stretch half-way across, trebling with their shade the apparent depth of the pool, and heightening in an equal ratio the whole flicker of the cascade, and the effect of the little bright patches of foam which, flung from the rock, incessantly revolve on the eddy.

## 2

## THE FAIRIES OF THE BURN

There is a natural connexion, it is said, between wild scenes and wild legends; and some of the traditions connected with this romantic and solitary dell illustrate the remark. Till a comparatively late period, it was known at many a winter fireside as a favourite haunt of the fairies, the most poetical of all our old tribes of spectres, and at one time one of the most popular. I have conversed with an old woman, one of the perished volumes of my library, who, when a very little girl, had seen myriads of them dancing as the sun was setting on the further edge of the dell; and with a still older man, who had the temerity to offer one of them a pinch of snuff at the foot of the cascade. Nearly a mile from where the ravine opens to the sea, it assumes a gentler and more pastoral character; the sides, no longer precipitous, descend towards the stream in green sloping banks; and a beaten path, which runs between Cromarty and Rosemarkie, winds down the one side and ascends the other. More than sixty years ago, one Donald Calder, a shopkeeper of Cromarty, was journeying by this path shortly after nightfall. The moon, at full, had just risen, but there was a silvery mist sleeping on the lower grounds that obscured the light, and the dell in all its extent was so overcharged by the vapour,

that it seemed an immense overflowed river winding through the landscape. Donald had reached its further edge, and could hear the rush of the stream from the deep obscurity of the abyss below, when there rose from the opposite side a strain of the most delightful music he had ever heard. He stood and listened: the words of a song of such simple beauty, that they seemed, without effort on his part, to stamp themselves on his memory, came wafted on the music, and the chorus, in which a thousand tiny voices seemed to join, was a familiar address to himself. "He! Donald Calder! ho! Donald Calder!" There are none of my Navity acquaintance, thought Donald, who sing like that; "What can it be?" He descended into the cloud; but in passing the little stream the music ceased; and on reaching the spot on which the singers had seemed stationed, he saw only a bare bank sinking into a solitary moor, unvaried by either bush or hollow, or the slightest cover in which the musician could have lain concealed. He had hardly time, however, to estimate the marvels of the case when the music again struck up, but on the opposite side of the dell, and apparently from the very knoll on which he had so lately listened to it; the conviction that it could not be other than supernatural overpowered him, and he hurried homewards under the influence of a terror so extreme, that, unfortunately for our knowledge of fairy literature, it had the effect of obliterating from his memory every part of the song except the chorus. The sun rose as he reached Cromarty; and he found that instead of having lingered at the edge of the dell for only a few minutes—and the time had seemed no longer—he had spent beside it the greater part of the night.

Above the lower cascade the lofty precipitous banks of the dell recede into a long elliptical hollow, which terminates at the upper extremity in a perpendicular precipice, half cleft to



#### CASCADE IN EATHIE BURN

"Above the lower cascade the lofty precipitous banks of the dell recede into a long elliptical hollow, which terminates at the upper extremity in a perpendicular precipice, half cleft to its base by a narrow chasm, out of which the little stream comes bounding in one adventurous leap to the bottom"



its base by a narrow chasm, out of which the little stream comes bounding in one adventurous leap to the bottom. A few birch and hazel bushes have anchored in the crannies of the rock, and darkened by their shade an immense rounded block of granite, many tons in weight, which lies in front of the cascade. Immediately beside the huge mass, on a level grassy spot, which occupies the space between the receding bank and the stream, there stood, about a century ago, a meal-mill. It was a small and very rude erection, with an old-fashioned horizontal water-wheel, such as may be still be met with in some places in the remote Highlands; and so inconsiderable was the power of the machinery, that a burly farmer of the parish, whose bonnet a waggish neighbour had thrown between the stones, succeeded in arresting the whole with his shoulder until he had rescued his Kilmarnock. But the mill of Eathie was a celebrated mill notwithstanding. No one resided near it, nor were there many men in the country who would venture to approach it an hour after sunset; and there were nights when, though deserted by the miller, its wheels would be heard revolving as busily as ever they had done by day, and when one who had courage enough to reconnoitre it from the edge of the dell, might see little twinkling lights crossing and recrossing the windows in irregular but hasty succession, as if a busy multitude were employed within. On one occasion the miller, who had remained in it rather later than usual, was surprised to hear outside the neighing and clamping of horses and the rattling of carts, and on going to the door he saw a long train of basket-woven vehicles laden with sacks, and drawn by shaggy little ponies of every diversity of form and colour. The attendants were slim, unearthly-looking creatures, about three feet in height, attired in grey, with red caps; and the whole seemed to have come out of a square opening in the



opposite precipice. Strange to relate, the nearer figures seemed to be as much frightened at seeing the miller as the miller was at seeing them; but, on one of them uttering a shrill scream, the carts moved backwards into the opening, which shut over them like the curtain of a theatre as the last disappeared.

There lived in the adjoining parish of Rosemarkie, when the fame of the mill was at its highest, a wild, unsettled fellow, named M'Kechan. Had he been born among the aristocracy of the country, he might have passed for nothing worse than a young man of spirit; and after sowing his wild oats among gentlemen of the turf and of the fancy, he would naturally have settled down into the shrewd, political landlord, who, if no builder of churches himself, would be willing enough to exert the privilege of giving clergymen, exclusively of his own choosing, to such churches as had been built already. As a poor man, however, and the son of a poor man, Tam M'Kechan seemed to bid pretty fair for the gallows; nor could he plead ignorance that such was the general opinion. He had been told so when a herd-boy; for it was no unusual matter for his master, a farmer of the parish, to find him stealing peas in the corner of one field, when the whole of his charge were ravaging the crops of another. He had been told so, too, when a sailor, ere he had broken his indentures and run away, when once caught among the casks and packages in the hold, ascertaining where the Geneva and sweetmeats were stowed. And now that he was a drover and a horse-jockey, people, though they no longer told him so, for Tam had become dangerous, seemed as certain of the fact as ever. With all his roguery, however, when not much in liquor he was by no means a very disagreeable companion; few could match him at a song or the bagpipe, and though rather noisy in his cups, and some-

what quarrelsome, his company was a good deal courted by the bolder spirits of the parish, and among the rest by the miller. Tam had heard of the piebald horses and their ghostly attendants; but without more knowledge than fell to the share of his neighbours, he was a much greater sceptic, and, after rallying the miller on his ingenuity and the prettiness of his fancy, he volunteered to spend a night at the mill, with no other companion than his pipes.

Preparatory to the trial the miller invited one of his neighbours, the young farmer of Eathie, that they might pass the early part of the evening with Tam; but when, after an hour's hard drinking, they rose to leave the cottage, the farmer, a kind-hearted lad, who was besides warmly attached to the jockey's only sister, would fain have dissuaded him from the undertaking. "I've been thinking, Tam," he said, "that flyte<sup>1</sup> wi' the miller as ye may, ye would better let the *good people*<sup>2</sup> alone;—or stay, sin' ye are sae bent on playing the fule, I'll e'en play it wi' you;—rax<sup>3</sup> me my plaid; we'll trim up the fire in the killogie<sup>4</sup> thegither; an' you will keep me in music." "Na, Jock Hossack," said Tam, "I maun keep my good music for the *good people*, it's rather late to flinch now; but come to the burn-edge wi' me the night, an' to the mill as early in the morning as ye may; an' hark ye, tak a double caulker<sup>5</sup> wi' you." He wrapt himself up closely in his plaid, took the pipes under his arm, and, accompanied by Jock and the miller, set out for the dell, into which, however, he insisted on descending alone. Before leaving the bank, his companions could see that he had

<sup>1</sup> Quarrel.

<sup>2</sup> Euphemism for "the fairies." The Greek nereids, who have so much in common with the Scotch fairies, were also spoken of as "the good damsels," "the good ladies."

<sup>3</sup> Reach.

<sup>4</sup> Furnace of a kiln.

<sup>5</sup> Double dram.

succeeded in lighting up a fire in the mill, which gleamed through every bore and opening, and could hear the shrill notes of a pibroch mingling with the dash of the cascade.

The sun had risen high enough to look aslant into the dell, when Jock and the miller descended to the mill, and found the door lying wide open. All was silent within; the fire had sunk into a heap of white ashes, though there was a bundle of fagots untouched beside it, and the stool on which Tam had been seated lay overturned in front. But there were no traces of Tam, except that the miller picked up, beside the stool, a little flat-edged instrument, used by the unfortunate jockey in concealing the age of his horses by effacing the marks on their teeth, and that Jock Hossack found one of the drones of his pipes among the extinguished embers. Weeks passed away and there was still nothing heard of Tam; and as every one seemed to think it would be in vain to seek for him anywhere but in the place where he had been lost, Jock Hossack, whose marriage was vexatiously delayed in consequence of his strange disappearance, came to the resolution of unravelling the mystery, if possible, by passing a night in the mill.

For the first few hours he found the evening wear heavily away; the only sounds that reached him were the loud monotonous dashing of the cascade, and the duller rush of the stream as it swept past the mill-wheel. He piled up fuel on the fire till the flames rose half-way to the ceiling, and every beam and rafter stood out from the smoke as clearly as by day; and then yawning, as he thought how companionable a thing a good fire is, he longed for something to amuse him. A sudden cry rose from the further gable, accompanied by a flutter of wings, and one of the miller's ducks, a fine plump bird came swooping down among the live embers. "Poor bird!" said Jock, "from the fox to the fire; I had

almost forgotten that I wanted my supper." He dashed the duck against the floor—plucked and embowelled it—and then, suspending the carcass by a string before the fire, began to twirl it round and round to the heat. The strong odorous fume had begun to fill the apartment, and the drippings to hiss and sputter among the embers, when a burst of music rose so suddenly from the green without, that Jock, who had been so engaged with the thoughts of his supper as almost to have forgotten the fairies, started half a yard from his seat. "That maun be Tam's pipes," he said; and giving a twirl to the duck he rose to a window. The moon, only a few days in her wane, was looking aslant into the dell, lighting the huge melancholy cliffs with their birches and hazels, and the white flickering descent of the cascade. The little level green on the margin of the stream lay more in the shade; but Jock could see that it was crowded with figures marvellously diminutive in stature, and that nearly one-half of them were engaged in dancing. It was enough for him, however, that the music was none of Tam's making; and, leaving the little creatures to gambol undisturbed, he returned to the fire.

He had hardly resumed his seat when a low tap was heard at the door, and shortly after a second and a third. Jock sedulously turned his duck to the heat, and sat still. He had no wish for visitors, and determined on admitting none. The door, however, though firmly bolted, fell open of itself, and there entered one of the strangest-looking creatures he had ever seen. The figure was that of a man, but it was little more than three feet in height; and though the face was as sallow and wrinkled as that of a person of eighty, the eye had the roguish sparkle and the limbs all the juvenile activity of fourteen. "What's your name, man?" said the little thing, coming up to Jock, and peering into his face till its wild, elfish features were within a few inches of his. "What's

your name?" "*Myse! an' Myse!*,"<sup>1</sup>—i.e., myself—said Jock, with a policy similar to that resorted to by Ulysses in the cave of the giant. "Ah, *Myse! an' Myse!*!" rejoined the creature; "*Myse! an' Myse!*!" and what's that you have got there, *Myse! an' Myse!*?" touching the duck as it spoke with the tip of its finger, and then transferring part of the scalding gravy to the cheek of Jock. Rather an unwarrantable liberty, thought the poor fellow, for so slight an acquaintance; the creature reiterated the question, and dabbed Jock's other cheek with a larger and still more scalding application of the gravy. "What is it?" he exclaimed, losing in his anger all thought of consequences, and dashing the bird, with the full swing of his arm, against the face of his visitor, "It's that!" The little creature, blinded and miserably burnt, screamed out in pain and terror till the roof rung again; the music ceased in a moment, and Jock Hossack had barely time to cover the fire with a fresh heap of fuel, which for a few seconds reduced the apartment to total darkness, when the crowd without came swarming like wasps to every door and window of the mill. "Who did it, Sanachy—who did it?" was the query of a thousand voices at once. "Oh, 'twas *Myse! an' Myse!*," said the creature; "'twas *Myse! an' Myse!*." "And if it was yoursel' and yoursel', who, poor Sanachy," replied his companions, "can help that?" They still, however, clustered round the mill; the flames began to rise in long pointed columns through the smoke, and Jock Hossack had just given himself up for lost, when a cock crew outside the building, and after a sudden breeze had moaned for a few seconds among the cliffs and the bushes and then

<sup>1</sup> The closest parallel to this example of a familiar type of story comes from Lapland (Hartland's *Science of Fairy Tales*, p. 173); but the ambiguous name in a similar form and to a similar purpose, appears in tales from Northumberland and Donegal.

sunk in the lower recesses of the dell, he found himself alone. He was married shortly after to the sister of the lost jockey, and never again saw the *good people* or, what he regretted nearly as little, his unfortunate brother-in-law. There were some, however, who affirmed that the latter had returned from fairyland seven years<sup>1</sup> after his mysterious disappearance, and supported the assertion by the fact that there was one Thomas M'Kechan who suffered at Perth for sheep-stealing a few months after the expiry of the seventh year. —(*Scenes and Legends.*)

## 3

## THE PASSING OF THE FAIRIES.

The fairies have deserted the Burn of Eathie; but we have proof quite as conclusive as the nature of the case admits, that when they ceased to be seen there, it would have been vain to have looked for them anywhere else. There is a cluster of turf-built cottages grouped on the southern side of the ravine; a few scattered knolls and a long partially wooded hollow, that seems a sort of covered-way leading to the recesses of the dell, interpose between them and the nearer edge, and the hill rises behind. On a Sabbath morning, nearly sixty years ago, the inmates of this little hamlet had all gone to church, all except a herd-boy and a little girl, his sister, who were lounging beside one of the cottages; when, just as the shadow of the garden-dial had fallen on the line of noon, they saw a long cavalcade ascending out of the ravine through the wooded hollow. It winded among the knolls and bushes; and, turning round the northern gable of the cottage beside which the sole spectators of the scene were stationed, began to ascend the

<sup>1</sup> The customary period of restraint in fairyland.



eminence toward the south. The horses were shaggy, diminutive things, speckled dun and gray; the riders, stunted, misgrown, ugly creatures, attired in antique jerkins of plaid, long grey cloaks, and little red caps, from under which their wild, uncombed locks shot out over their cheeks and foreheads. The boy and his sister stood gazing in utter dismay and astonishment, as rider after rider, each one more uncouth and dwarfish than the one that had preceded it, passed the cottage and disappeared among the brushwood which at that period covered the hill, until at length the entire route, except the last rider, who lingered a few yards behind the others, had gone by. "What are ye, little mannie? and where are ye going?" inquired the boy, his curiosity getting the better of his fears and his prudence. "Not of the race of Adam,"<sup>1</sup> said the creature, turning for a moment in his saddle: "the People of Peace<sup>2</sup> shall never more be seen in Scotland."—(*The Old Red Sandstone.*)

<sup>1</sup> One explanation in the Highlands of the existence of fairies was that they were a remnant of the fallen angels.

<sup>2</sup> Like the German "still folk," refers to the noiseless motion of the fairies.

---

## XII

## A TALE OF THE SECOND SIGHT

## THE STORY OF DONALD GAIR

[Miller had this story probably from his father, who served in the navy as here described (see *My Schools and Schoolmasters*, p. 5). Mrs. Miller, in the preface to the volume from which it is taken, includes it among those that "were written at an early period of the author's career, during the first years of his married life" (1834), and "were composed literally over the midnight lamp, after returning late in the evening from a long day's work over the ledger." The "second-sight" is a Highland term for the gift of foreseeing the future, strictly in a symbolic fashion.]

"THE second sight," said an elderly man who sat beside me, and whose countenance had struck me as highly expressive of serious thought, "is fast wearing out of this part of the country. Nor should we much regret it perhaps. It seemed, if I may so speak, as something outside the ordinary dispositions of Providence; and, with all the horror and unhappiness that attended it, served no apparent good end. I have been a traveller in my youth, masters. About thirty years ago I served for some time in the navy. I entered on the first breaking out of the Revolutionary war, and was discharged during the short peace of 1801. One of my chief companions on shipboard for the first few years was a young man, a native of Sutherland, named Donald Gair. Donald, like most of his countrymen, was a staid, decent lad, of a rather melancholy cast, and yet there were occasions when he could be quite gay enough too. We sailed together in the *Bedford*, under Sir Thomas Baird; and, after witnessing the mutiny at the Nore—neither of us did much more than witness it, for in

our case it merely transferred the command of the vessel from a very excellent captain to a set of low Irish Doctor's-list men—we joined Admiral Duncan, then on the Dutch station. We were barely in time to take part in the great action. Donald had been unusually gay all the previous evening. We knew the Dutch had come out, and that there was to be an engagement on the morrow; and, though I felt no fear, the thought that I might have to stand in a few brief hours before my Maker and my Judge had the effect of rendering me serious. But my companion seemed to have lost all command of himself; he sung, and leaped, and shouted, not like one intoxicated—there was nothing of intoxication about him—but under the influence of a wild, irrepressible flow of spirits. I took him seriously to task, and reminded him that we might both at that moment be standing on the verge of death and judgment. But he seemed more impressed by my remarking that, were his mother to see him, she would say he was *fey*.<sup>1</sup>

“We had never been in action before with our captain, Sir Thomas. He was a grave, and, I believe, God-fearing man, and much a favourite with at least all the better seamen. But we had not yet made up our minds on his character; indeed, no sailor ever does with regard to his officers till he knows how they fight; and we were all curious to see how the parson, as we used to call him, would behave himself among the shot. But truly we might have had little fear for him. I have sailed with Nelson, and not Nelson himself ever showed more courage or conduct than Sir Thomas in that action. He made us all lie down beside our guns, and steered us, without firing a shot, into the very thickest of the fight; and when we did open, masters, every broadside

<sup>1</sup> Doomed.

told with fearful effect. I never saw a man issue his commands with more coolness or self-possession.

“There are none of our Continental neighbours who make better seamen, or who fight more doggedly than the Dutch. We were in a blaze of flame for four hours. Our rigging was slashed to pieces; and two of our ports were actually knocked into one. There was one fierce, ill-natured Dutchman, in particular—a fellow as black as night, without so much as a speck of paint or gilding about him, save that he had a red lion on the prow—that fought us as long as he had a spar standing; and when he struck at last, fully one-half the crew lay either dead or wounded on the decks, and all his scupper-holes were running blood as freely as ever they had done water at a deck-washing. The *Bedford* suffered nearly as severely. It is not in the heat of action that we can reckon on the loss we sustain. I saw my comrades falling around me—falling by the terrible cannon shot, as they came crashing in through our sides; I felt, too, that our gun wrought more heavily as our numbers were thinning around it; and at times, when some sweeping chain-shot or fatal splinter laid open before me those horrible mysteries of the inner man which nature so sedulously conceals, I was conscious of a momentary feeling of dread and horror. But in the prevailing mood, an unthinking anger, a dire thirsting after revenge, a dogged, unyielding firmness, were the chief ingredients. I strained every muscle and sinew; and amid the smoke, and the thunder, and the frightful carnage, fired and loaded, and fired and loaded, and, with every discharge, sent out, as it were, the bitterness of my whole soul against the enemy. But very different were my feelings when victory declared in our favour, and, exhausted and unstrung, I looked abroad among the dead. As I crossed the deck, my feet literally splashed in blood; and I saw the mangled fragments

of human bodies sticking in horrid patches to the sides and the beams above. There was a fine little boy aboard, with whom I was an especial favourite. He had been engaged, before the action, in the construction of a toy ship, which he intended sending to his mother; and I used sometimes to assist him, and to lend him a few simple tools; and, just as we were bearing down on the enemy, he had come running up to me with a knife, which he had borrowed from me a short time before.

“‘Alick, Alick,’ he said, ‘I have brought you your knife: we are going into action, you know, and I may be killed, and then you would lose it.’

“Poor little fellow! The first body I recognised was his. Both his arms had been fearfully shattered by a cannon shot, and the surgeon’s tourniquets, which had been fastened below the shoulders, were still there; but he had expired ere the amputating knife had been applied. As I stood beside the body, little in love with war, masters, a comrade came up to me, to say that my friend and countryman, Donald Gair, lay mortally wounded in the cockpit. I went instantly down to him. But never shall I forget, though never may I attempt to describe, what I witnessed that day, in that frightful scene of death and suffering. Donald lay in a low hammock, raised not a foot over the deck; and there was no one beside him, for the surgeons had seen at a glance the hopelessness of his case, and were busied about others of whom they had hope. He lay on his back, breathing very hard, but perfectly insensible; and in the middle of his forehead there was a round little hole, without so much as a speck of blood about it, where a musket bullet had passed through the brain. He continued to breathe for about two hours; and when he expired, I wrapped the body decently up in a hammock, and saw it committed to the deep. The years passed; and, after

looking death in the face in many a storm and many a battle, peace was proclaimed, and I returned to my friends and my country.

“A few weeks after my arrival, an elderly Highland woman, who had travelled all the way from the farther side of Loch Shin to see me, came to our door. She was the mother of Donald Gair, and had taken her melancholy journey to hear from me all she might regarding the last moments and death of her son. She had no English, and I had not Gaelic enough to converse with her; but my mother, who had received her with a sympathy all the deeper from the thought that her own son might have been now in Donald’s place, served as our interpreter. She was strangely inquisitive, though the little she heard served only to increase her grief; and you may believe it was not much I could find heart to tell her; for what was there in the circumstances of my comrade’s death to afford pleasure to his mother? And so I waived her questions regarding his wound and his burial as I best could.

“‘Ah,’ said the poor woman to my mother, ‘he need not be afraid to tell me all. I know too, too well, that my Donald’s body was thrown into the sea; I knew of it long ere it happened; and I have long tried to reconcile my mind to it—tried when he was a boy even; and so you need not be afraid to tell me now.’

“‘And how,’ asked my mother, whose curiosity was excited, ‘could you have thought of it so early?’

“‘I lived,’ rejoined the woman, ‘at the time of Donald’s birth, in a lonely shieling<sup>1</sup> among the Sutherland Hills,—a full day’s journey from the nearest church. It was a long, weary road, over moors and mosses. It was in the winter season, too, when the days are short; and so, in bringing

<sup>1</sup> A temporary dwelling on the hill pasture on which the cattle were fed for several weeks in the summer.



Donald to be baptized, we had to remain a night by the way, in the house of a friend. We there found an old woman of so peculiar an appearance, that, when she asked me for the child, I at first declined giving it, fearing she was mad, and might do it harm. The people of the house, however, assured me she was incapable of hurting it; and so I placed it on her lap. She took it up in her arms, and began to sing to it; but it was such a song as none of us had ever heard before.

“‘Poor little stranger!’ she said, ‘thou hast come into the world in an evil time. The mists are on the hills, gloomy and dark, and the rain lies chill on the heather; and thou, poor little thing, hast a long journey through the sharp, biting winds, and thou art helpless and cold. Oh, but thy long after-journey is as dreary and dark. A wanderer shalt thou be over the land and the ocean; and in the ocean shalt thou lie at last. Poor little thing, I have waited for thee long. I saw thee in thy wanderings, and in thy shroud, ere thy mother brought thee to the door; and the sounds of the sea, and of the deadly guns, are still ringing in my ears. Go, poor little thing, to thy mother. Bitterly shall she yet weep for thee, and no wonder; but no one shall ever weep over thy grave, or mark where thou liest amid the deep green, with the shark and the seal.’

“‘From that evening,’ continued the mother of my friend, ‘I have tried to reconcile my mind to what was to happen Donald. But oh, the fond, foolish heart! I loved him more than any of his brothers, because I was to lose him soon; and though, when he left me, I took farewell of him for ever—for I knew I was never, never to see him more—I felt, till the news reached me of his fall in battle, as if he were living in his coffin. But oh! do tell me all you know of his death. I am old and weak, but I have travelled far, far to see you,

that I might hear all ; and surely, for the regard you bore to Donald, you will not suffer me to return as I came.'

"But I need not dwell longer on the story. I imparted to the poor woman all the circumstances of her son's death, as I have done to you ; and, shocking as they may seem, I found that she felt rather relieved than otherwise."

"This is not quite the country of the second sight," said my friend ; "it is too much on the borders of the Lowlands. The gift seems restricted to the Highlands alone, and it is now fast wearing out even there."—(*From "The Lykewake" in Tales and Sketches.*)

---

### XIII.

## THE CENTENARY OF "THE FORTY-FIVE"

ALAS, how the short-lived children of men press on to the tomb ! A century has now passed since the clans mustered in Glenfinnan ; and there are few Scotchmen in middle life to whom that event does not stand as a sort of beacon in the tide of time, to indicate how wave after wave of the generations of the past has broken on the silent shores of eternity, and disappeared from the world for ever. The writer of these remarks was born within the present century, and yet even he can look back on some three or four several generations of men, peculiarly marked in their neighbourhood by the epoch of the Rebellion, who have passed in succession from this visible scene of things, lighted up by the sun, to the dark land of forgetfulness. First, we remember a few broken vestiges of a generation that had been engaged in the active business of life when the field of Culloden was stricken.

We attended, when a mere boy, the funeral of an old Highlander, a Stuart, who had fought in it on the side of the Prince. We knew another old man, who had been a ship-boy at the time in a vessel with some Government stores aboard, that, shortly before the battle, was seized by the rebels; and have heard him tell how, when joking with them—for they were by no means a band of cut-throat-looking men—he ventured to speak of their Prince as the Pretender, and was cautioned by one of them to use a more civil word for the future. We remember, too, being brought by two grown-up relatives to visit an old man on his death-bed, who, like the first, had fought at Culloden, but on the side of Hanover. He had been settled in life at the time as the head gardener of a northern proprietor, and little dreamed of being engaged in war; but the Rebellion broke out; his master, a kindly man, and a great Whig, volunteered in behalf of his principles under Duke William, and his attached gardener went with him. At the time of our visit, when stretched on the bed from which he never afterwards rose, he had outlived his century. He had been an extremely powerful man in his day; and the large wrinkled hand, and huge structure of bone, and deep full voice, still remained, to testify, amid the general wreck, to what he had once been. His memory for all the later events of his life was gone, so that the preceding forty years of it seemed a blank; but well did he remember the battle, and still more vividly, and with deep execration, the succeeding atrocities of Cumberland. These vestiges of the age of Culloden passed away, and the generation immediately behind them fell into the front ranks—ancient men and women, who had been mere boys and girls at the time of the "fight," but who vividly remembered some of its details. We knew one of these, an aged woman, who, on the day of the battle, had been tending some sheep on a solitary moor,

separated from that of Culloden by an arm of the sea, and screened by a lofty hill, and who had sat listening in terror to the boom of the cannon and the rattle of the musketry, scared as much by the continuous howling of her dog, which she regarded as coupled with some supernatural cause, as by the deadly "thunders in the moors." We intimately knew another who witnessed the battle, though in no very favourable circumstances for minute observation, from the Hill of Cromarty. The day, he has told us, was drizzly and thick; and on reaching the brow of the hill, where he found a vast group of his townsfolk already assembled, he could scarce see the opposite land. But the fog gradually cleared away: first one hill-top came into view, and then another, till at length the long range of coast, from the opening of the great Caledonian Valley to the promontory of Burgh-head, was dimly visible through the haze. A little after noon there rose a sudden burst of round white cloud from the moor of Culloden, and then a second burst beside it, and then they mingled together, and went rolling slantways on the wind towards the west; and he could hear the rattle of the smaller fire-arms mingling with the roar of the artillery. And then, in what seemed a wonderfully short space of time, the cloud dissipated and disappeared, and the boom of the greater guns ceased, and a sharp intermittent patter of musketry passed on towards Inverness. Such was the battle of Culloden, as witnessed by the writer's maternal grandfather, then a boy in his fourteenth year. The years passed by, and he and the generation to which he belonged followed the generation that had gone before; and then the front rank in the general march to the tomb came to be occupied by those so long known in Scotland as the Culloden-year people—a class of persons who stood in no need of consulting records and registers for the date of their birth, for the battle had drawn, as if with the sword-

edge, its deep score athwart the time, so that all took note of it. But the Culloden-year people passed from the stage also; every season in its flight left them fewer and feebler; and we now see the front rank composed of their children—a gray-haired generation, drooping earthwards, who have already spent in their sojourn the term so long since fixed by the Psalmist. And thus—as wave succeeds wave, storm-impelled from the ocean, to break upon the shore—pass away and disappear the generations of man. It were well, since our turn must come next, to be distinguishing in time between the solid and the evanescent—the things which wear out like the old Jacobitism of the past, and become sorry shows and idle mockeries, and the things immortal in their natures, which contumely cannot degrade nor persecution put down.—*The Witness*, September, 27, 1845. (*Essays, Historical and Biographical.*)

---

## XIV

## THE OLD RED SANDSTONE

[The *Old Red Sandstone*, with which Miller's name will always be closely associated, occupies over large areas of England and Ireland but especially in Scotland, a position in the upper half of the Primary or Palæozoic division just below the Carboniferous System or rocks of the coal-measures; elsewhere, as in the name-county, held by the Devonian System. It consists of thick beds of a mainly deep red sandstone, whence its name distinguishing it from a younger sandstone series overlying the Carboniferous; with beds of a coarse conglomerate or pebble rock and grey fossil-bearing flagstones. Sediments three miles thick imply a large area of denudation. The Devonian System proper is clearly



of marine origin; while the Old Red from its equivalent position yet in the main strikingly different character, the heavy coating of earthy peroxide of iron upon its quartz grains which seems to imply saturation in closed waters, and the character of its aquatic life, fish and molluscs whose rare modern representatives are confined to rivers—is supposed and is generally accepted to have been laid down in wide lengthy fresh-water lakes. Murchison, on the contrary, pronounced the Old Red a sea product, which conclusion was accepted by Miller; and the occurrence of a species of *Pterichthys* (see next section) associated with marine remains in the Middle Devonian of the Continent, with some other minor data, makes for Murchison's view. At the most, however, the dispute so far is as to whether these "lakes" had connection with the open sea, or were even great brackish estuaries. The period was, at any rate, one of slow but steady uplift of the land to Continental conditions, marked by lofty parallel ridges striking roughly N.E. and S.W., between which lay the lakes or estuaries aforesaid. That lying to the north of the Grampians has, on the former hypothesis, been named *Lake Orcadie*. Its western extremity lay along the inner reaches of the Moray Firth, and it spread northwards to Caithness and Orkney. The remains of its animal and vegetable life, of which the sandstone itself shows little trace but which are preserved in the flags and in limestone nodules, indicate a rich and strange fish-life, as well as heavily wooded shores with certain trees resembling pines, insects often of great size, land and water-scorpions, etc. In the southern districts these "lakes" were frequently subjected to much volcanic activity, but the traces of such in the Moray Firth area are slight. As a whole the Old Red division, which is also present on the north-eastern shore of North America, divides itself into two stratigraphically distinctly separated sections known as Upper and Lower, the latter including the Cromarty beds; and is so classified in the Map of the Geological Survey, prepared by Hugh Miller, junior. But in consideration of the fact that out of the seventeen species of fish disinterred from *Lake Orcadie*, not one occurs in any other



Lower Old Red known in Britain (Forfarshire, West of England), or in the Lower Devonian of Canada, it is urged that this section must be dissociated from the Lower group proper as a Middle Old Red or Orcadian Sandstone. Two genera, however, are common, as are also lithological character and position, so that this matter is still in dispute. On the whole the trend of opinion is towards reverting to the old triple division, at least. Miller made the Cromarty sections classic ground by his rich and novel discoveries at a time when the formation was supposed to be singularly barren in organic remains; and by his acute restorations and vivid descriptions. But it was the Lias with its abundant shells that, as here shown, made Miller a geologist.

(Geikie's *Text Book*, 4th edition; *Old Red Sandstone of Western Europe*, Trans. Roy. Soc. Edin., vol. xxviii.; *Memoir of the Geological Survey for East Fife*. Marr's *Stratigraphical Geology*. Jukes's *Building of the British Isles*. Traquair's *Extinct Vertebrate Animals of the Moray Firth Area*. Thomson's *Position of the Old Red Sandstone*. Goodchild in *Geology, etc., of Clyde Area* (Brit. Assoc. Handbook: Glasgow, 1901). Horne in *Report Brit. Assoc.*, 1901. Etc.)].

THE line of the Cromarty Frith forms an angle of about thirty-five degrees with that of the granitic line of wedge-like hills which it bisects; and hence the peculiar shape of that tongue of land which forms the lower portion of the Black Isle, and which, washed by the Moray Frith on the one side, and by the Frith of Cromarty on the other, has its apex occupied by the Southern Sutor. Imagine a lofty promontory somewhat resembling a huge spear thrust horizontally into the sea, a ponderous mass of granitic gneiss,<sup>1</sup> of about a mile in length, forming the head, and a rectilinear line of the Old Red Sandstone, more than ten miles in length, forming the shaft; and such is the appearance which this

<sup>1</sup>Of the general composition of granite, but with the crystals roughly arranged in bands.

tongue of land presents when viewed from its north-western boundary, the Cromarty Frith. When viewed from the Moray Frith—its south-western boundary—we see the same granitic spear-head, but find the line of the shaft knobbed by the other granitic eminences of the chain.

Now, on this tongue of land I first broke ground as a geologist. The quarry described in my introductory chapter<sup>1</sup> as that in which my notice was first attracted by the ripple-markings opens on the Cromarty Frith side of this huge spear-shaft; the quarry to which I removed immediately after, and beside which I found the fossils of the Lias,<sup>2</sup> opens on its Moray Frith side. The uptilted section of sandstone occurs on both sides, where the shaft joins to the granitic spear-head; but the Lias I found on the Moray Frith side alone. It studs the coast in detached patches, sorely worn by the incessant lashings of the Frith; and each patch bears an evident relation, in the place it occupies, to a corresponding knob or wedge in the granitic line. The Northern Sutor, as has been just said, is one of these knobs or wedges. It has its accompanying patch of Lias upheaved<sup>2</sup> at its base, and lying unconformably, not only to its granitic strata, but also to its subordinate sandstones. The Southern Sutor, another of these knobs, has also its accompanying patch of Lias, which, though lying beyond the fall of the tide, strews the beach, after every storm from the east, with its shales and its fossils. The hill of Eathie is yet another knob of the series; and it too has its Lias patch. The granitic wedges have not only uptilted the sandstone, but they have also upheaved the superincumbent Lias, which, but for their agency, would have remained buried under the waters of the Frith, and its ever-accumulating banks of sand and gravel.

<sup>1</sup> Extract I.

<sup>2</sup> See Extract XXXII.

I had remarked at an early period the correspondence of the granitic knobs with the Lias patches, and striven to realize the original place and position of the latter ere the disturbing agent had upcast them to the light. What, I have asked, was the extent of this comparatively modern formation in this part of the world ere the line of wedges were forced through from below? A wedge struck through the ice of a pond towards the centre breaks its continuity, and we find the ice on both sides the wedge; whereas, when struck through at the pond edge, it merely raises the ice from the bank, and we find it, in consequence, on but one side the wedge. Whether, have I often inquired, were the granitic wedges of this line forced through the Lias at one of its edges, or at a comparatively central point? and about ten years ago I set myself to ascertain whether I could not solve the question. The Southern Sutor is a wedge open to examination on both its sides: the Moray Frith washes it upon one side—the Cromarty Frith on the other. Was the Lias to be found on both its sides? If so, the wedge must have been forced *through* the formation—not merely *beside* it. It occurs, as I have said, on the Moray Frith side of the wedge; and I resolved on carefully exploring the Frith of Cromarty, to try whether it did not occur on that side too.

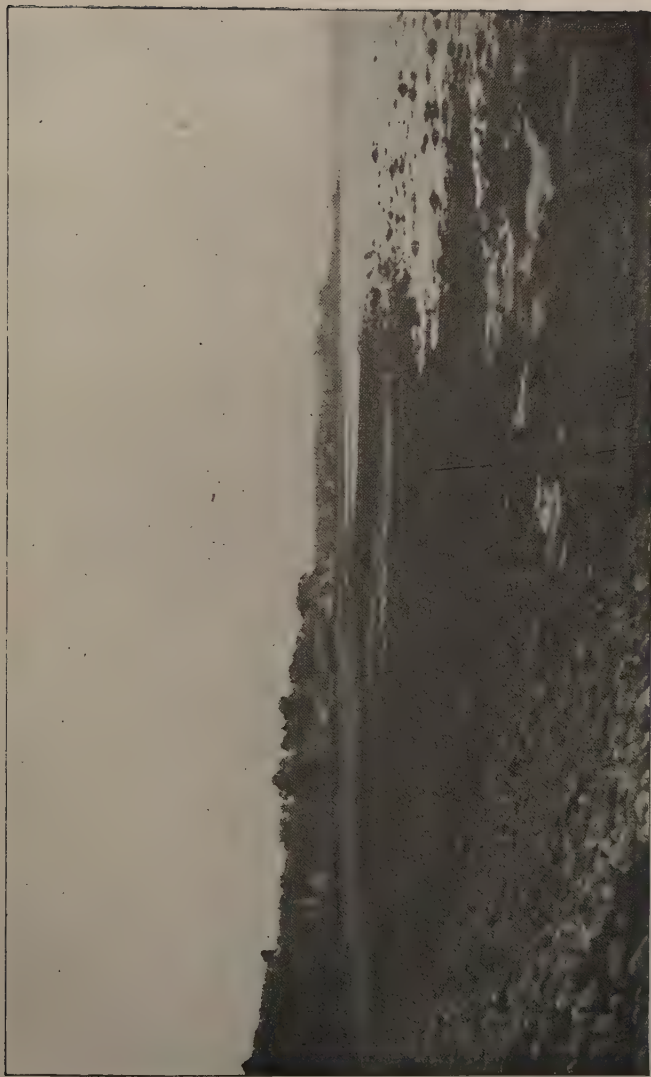
With this object I set out on an exploratory excursion, on a delightful morning of August, 1830. The tide was falling—it had already reached the line of half-ebb; and from the Southern Sutor to the low long promontory on which the town of Cromarty is built there extended a broad belt of mingled sand-banks and pools, accumulations of boulders and shingle, and large tracts darkened with algæ. I passed direct by a grassy pathway to the Sutor—the granitic spear-head of a late illustration; and turned, when I reached the curved and contorted gneiss, to trace through the broad belt

left by the retiring waters, and in a line parallel to what I have described as the shaft of the huge spear—the beds and strata of the Old Red Sandstone in their ascending succession. I first crossed the conglomerate base of the system, here little more than a hundred feet in thickness. The ceaseless dash of the waves, which smooth most other rocks, has a contrary effect on this bed, except in a few localities, where its arenaceous cement or base is much indurated. Under both the Northern and Southern Sutors the soft cement yields to the incessant action, while the harder pebbles stand out in bold relief; so that wherever it presents a mural front to the breakers, we are reminded by its appearance of the artificial rock-work of the architect. It roughens as the rocks around it polish. Quitting the conglomerate, I next passed over a thick bed of coarse red and yellow sandstone, with here and there a few pebbles sticking from its surface, and here and there a stratum of finer-grained fissile sandstone inserted between the rougher strata. I then crossed over strata of an impure grayish limestone and a slaty clay, abounding, as I long afterwards ascertained, in ichthyolites<sup>1</sup> and vegetable remains. There are minute veins in the limestone (apparently cracks filled up) of a jet-black bituminous substance, resembling anthracite; the stratified clay is mottled by layers of semi-aluminous, semi-calcareous nodules, arranged like layers of flint in the upper chalk. These nodules, when cut up and polished, present very agreeable combinations of colour: there is generally an outer ring of reddish brown, an inner ring of pale yellow, and a central patch of red; and the whole is prettily veined with dark-coloured carbonate of lime. Passing onwards and upwards in the line of the strata, I next crossed over a series of alternate beds of coarse sandstone and stratified clay, and then lost sight of the rock alto-

<sup>1</sup> Fossil-fish.

gether, in a wide waste of shingle and boulder-stones, resting on a dark blue argillaceous diluvium, sometimes employed in that part of the country, from its tenacious and impermeable character, for lining ponds and dams, and as mortar for the foundations of low-lying houses exposed in wet weather to the sudden rise of water. The numerous boulders of this tract have their story to tell, and it is a curious one. The Southern Sutor, with its multitudinous fragments of gneiss torn from its sides by the sea, or loosened by the action of frosts and storms, and rolled down its precipices, is only a few hundred yards away. Its base, where these lie thickest, has been swept by tempests, chiefly from the east, for thousands and thousands of years ; and the direct effect of these tempests, regarded as transporting agents, would have been to strew this stony tract with those detached fragments. The same billow that sends its long roll from the German Ocean to sweep the base of the Sutor, and to leap up against its precipices to the height of eighty and a hundred feet, breaks in foam, only a minute after, over this stony tract ; which has, in consequence, its sprinkling of fragments of gneiss transported by an agency so obvious. But for every one such fragment which it bears, we find at least ten boulders that have been borne for forty and fifty miles in the opposite direction from the interior of the country—a direction in which no transporting agency now exists. The tempests of thousands of years have conveyed for but a few hundred yards not more than a tithe of the materials of this tract : nine-tenths of the whole have been conveyed by an older agency over spaces of forty and fifty miles. How immensely more powerful, then, or how immensely protracted in its operation, must that older agency have been !

I passed onwards, and reached a little bay, or rather angular indentation of the coast, in the neighbourhood of the



#### CROMARTY AND THE EAST SHORE

"I passed onwards, and reached a little bay, or rather angular indentation of the coast, in the neighbourhood of the town. It was laid bare by the tide this morning."





town. It was laid bare by the tide this morning far beyond its outer opening; and the huge table-like boulder which occupies nearly its centre, held but a middle place between the still darkened flood-line that ran high along the beach, and the brown line of ebb that bristled far below with forests of the rough-stemmed tangle. This little bay or inflection of the coast serves as a sort of natural wear in detaining floating drift-weed, and is often found piled, after violent storms from the east, with accumulations, many yards in extent, and several feet in depth, of kelp and tangle, mixed with zoophytes<sup>1</sup> and mollusca, and the remains of fish killed among the shallows by the tempest. Early in the last century, a large body of herrings, pursued by whales and porpoises, were stranded in it, to the amount of several hundred barrels; and it is said that salt and cask failed the packers when but comparatively a small portion of the shoal were cured, and that by much the greater part of them were carried away by the neighbouring farmers for manure. Ever since the formation of the present coast-line, this natural wear has been arresting, tide after tide, its heaps of organic matter, but the circumstances favourable to their preservation have been wanting: they ferment and decay when driven high on the beach; and the next spring-tide, accompanied by a gale from the west, sweeps every vestige of them away; and so, after the lapse of many centuries, we find no other organisms among the rounded pebbles that form the beach of this little bay, than merely a few broken shells, and occasionally a mouldering fish-bone. Thus very barren formations may belong to periods singularly rich in organic existences. When what is now the little bay was the bottom of a profound ocean, and far from any shore, the circumstances for the preservation of its organisms must have been much

<sup>1</sup> See note on subsequent Extract.

more favourable. In no locality in the Old Red Sandstone with which I am acquainted have such beautifully-preserved fossils been found. But I anticipate.

In the middle of the little bay, and throughout the greater part of its area, I found the rock exposed—a circumstance which I had remarked many years before when a mere boy, without afterwards recurring to it as one of interest. But I had now learned to look at rocks with another eye: and the thought which first suggested itself to me regarding the rock of the little bay was, that I had found the special object of my search—the Lias. The appearances are in some respects not dissimilar. The Lias of the north of Scotland is represented in some localities by dark-coloured unctuous clays, in others by grayish black sandstones that look like indurated mud, and in others by beds of black fissile shale, alternating with bands of coarse impure limestone, and studded between the bands with limestone nodules of richer quality and finer grain. The rock laid bare in the little bay is a stratified clay, of a gray colour tinged with olive, and occurring in beds separated by indurated bands of gray micaceous sandstone. They also abound in calcareous nodules. The dip of the strata, too, is very different from that of the beds which lean against the gneiss of the Sutor. Instead of an angle of eighty, it presents an angle of less than eight. The rocks of the little bay must have lain beyond the disturbing uptilting influence of the granitic wedge. So thickly are the nodules spread over the surface of some of the beds, that they reminded me of floats of broken ice on the windward side of a lake after a few days' thaw, when the edges of the fragments are smoothed and rounded, and they press upon one another, so as to cover, except in the angular interstices, the entire surface.

I set myself carefully to examine. The first nodule I laid open contained a bituminous-looking mass, in which I could

trace a few pointed bones and a few minute scales. The next abounded in rhomboidal and finely-enamelled scales, of much larger size and more distinct character. I wrought on with the eagerness of a discoverer entering for the first time in a *terra incognita* of wonders. Almost every fragment of clay, every splinter of sandstone, every limestone nodule, contained its organism—scales, spines, plates, bones, entire fish; but not one organism of the Lias could I find—no ammonites, no belemnites, no gryphites,<sup>1</sup> no shells of any kind: the vegetable impressions were entirely different; and not a single scale, plate, or ichthyodorulite could I identify with those of the newer formation. I had got into a different world, and among the remains of a different creation; but where was its proper place in the scale? The beds of the little bay are encircled by thick accumulations of diluvium and debris, nor could I trace their relation to a single known rock. I was struck, as I well might, by the utter strangeness of the forms—the oar-like arms of the *Pterichthys*,<sup>2</sup> and its tortoise-like plates—the strange buckler-looking head of the *Coccosteus*, which, I supposed, might possibly be the back of a small tortoise, though the tubercles reminded me rather of the skin of the shark—the polished scales and plates of the *Osteolepis*<sup>3</sup>—the spined and scaled fins of the *Cheiracanthus*<sup>4</sup>—above all, the one-sided tail of at least eight out of the ten or twelve varieties of fossil which the deposit contained. All together excited and astonished me. But some time elapsed ere I learned to distinguish the nicer generic differences of the various organisations of the formation. I found fragments of the *Pterichthys* on this morning; but I date its discovery

<sup>1</sup> See notes in later Extract.

<sup>2</sup> See next Extract.

<sup>3</sup> Very common in Orcadian O. R.: allied to present day *Polypterus* of the Nile. Covered with “scales” of “bone.”

<sup>4</sup> Small spiny fish, of shark type.

in relation to the mind of the discoverer more than a twelve-month later. I confounded the *Cheiracanthus*, too, with its single-spined membranous dorsal, with *Diplacanthus*<sup>1</sup> *ichthyolite*, furnished with two such dorsals; and the *Diplopterus*<sup>2</sup> with the *Osteolepis*. Still, however, I saw enough to exhilarate and interest; I wrought on till the advancing tide came splashing over the nodules, and a powerful August sun had risen towards the middle sky; and, were I to sum up all my happier hours, the hour would not be forgotten in which I sat down on a rounded boulder of granite by the edge of the sea, when the last bed was covered, and spread out on the beach before me the spoils of the morning.

The Old Red Sandstone has also its peculiarities of prospect, which vary according to its formations, and the amount and character of the disturbing and denuding agencies to which these have been exposed. The great antiquity of this deposit is unequivocally indicated by the manner in which we find it capping, far in the interior, in insulated beds and patches, some of our loftier hills, or, in some instances, wrapping them round, as with a caul, from base to summit. It mixes largely, in our northern districts, with the mountain scenery of the country, and imparts strength and boldness of outline to every landscape in which it occurs. Its island-like patches affect generally a bluff parabolic or conical outline; its loftier hills present rounded dome-like summits, which sink to the plain on the one hand in steep, slightly concave lines, and on the other in lines decidedly convex, and a little less steep. The mountain of boldest outline in the line of the Caledonian Valley (Mealforvony) is composed externally of this rock. Except where covered by the diluvium, it

<sup>1</sup> Small spiny fish, of shark type.

<sup>2</sup> A genus of *Osteolepidæ* ("bony-scaled").

seems little friendly to vegetation. Its higher summits are well nigh as bare as those of the primary rocks ; and, when a public road crosses its lower ridges, the traveller generally finds there is no paving process necessary to procure a hardened surface, for his wheels rattle over the pebbles embedded in the rock. On the sea-coast, in several localities, the deposit presents striking peculiarities of outline. The bluff and rounded precipices stand out in vast masses, that affect the mural form, and present few of the minuter angularities of the primary rocks. Here and there a square buttress of huge proportions leans against the front of some low-browed crag, that seems little to need any such support, and casts a length of shadow athwart its face. There opens along the base of the rock a line of rounded shallow caves, or what seem rather the openings of caves not yet dug, and which testify of a period when the sea stood about thirty feet higher on our coasts than at present. A multitude of stacks and tabular masses lie grouped in front, perforated often by squat, heavy arches ; and stacks, caverns, buttresses, crags, and arches, are all alike mottled over by the thickly-set and variously-coloured pebbles. There is a tract of scenery of this strangely-marked character in the neighbourhood of Dunottar, and two other similar tracts in the far north, where the hill of Nigg, in Ross-shire, declines towards the Lias deposit in the Bay of Shandwick, and where, in the vicinity of Inverness, a line of bold and precipitous coast runs between the pyramidal wooded eminence which occupies the south-east corner of Ross, and the tower-like headlands that guard the entrance of the Bay of Munlochy.

. . . . .

We pass from the conglomerate to the middle and upper beds of the lower formation, and find scenery of a different character in the districts in which they prevail. The aspect



is less bold and rugged, and often affects long horizontal lines, that stretch away, without rise or depression, amid the surrounding inequalities of the landscape, for miles and leagues, and that decline to either side, like roofs of what the architect would term a low pitch. The ridge of the Leys, in the eastern opening of the Caledonian Valley, so rectilinear in its outline and so sloping in its sides, presents a good illustration of this peculiarity. The rectilinear ridge which runs from the Southern Sutor of Cromarty far into the interior of the country, and which has been compared in a former chapter to the shaft of a spear, furnishes another illustration equally apt.<sup>1</sup> Where the sloping sides of these roof-like ridges decline, as in the latter instance, towards an exposed sea-coast, we find the slope terminating often in an abrupt line of rock dug out by the waves. It is thus a roof set on walls, and furnished with eaves. A ditch just finished by the labourer presents regularly sloping sides, but the little stream that comes running through gradually widens its bed by digging furrows into the slopes, the undermined masses fall in and are swept away, and in the course of a few months the sides are no longer sloping, but abrupt. And such, on a great scale, has been the process through which coast-lines that were originally paved slopes have become walls of precipices. The waves cut first through the outer strata; and every stratum

<sup>1</sup> The valleys which separate these ridges form often spacious friths and bays, the frequent occurrence of which in the Old Red Sandstone constitutes, in some localities, one of the characteristics of the system. Mark, in a map of the north of Scotland, how closely friths and estuaries lie crowded together between the counties of Sutherland and Inverness. In a line of coast little more than forty miles in extent there occur four arms of the sea—the Friths of Cromarty, Beauly, and Dornoch, and the Bay of Munlochy. The Frith of Tay and the Basin of Montrose are also semi-marine valleys of the Old Red Sandstone. Two of the finest harbours in Britain, or the world, belong to it—Milford Haven in South Wales, and the Bay of Cromarty. (Miller.)

thus divided comes to present two faces—a perpendicular face in the newly-formed line of precipice, and another horizontal face lying parallel to it along the shore. One-half the severed stratum seems as if rising out of the sea; the other half as if descending from the hill: the geologist who walks along the beach finds the various beds presented in duplicate—a hill-bed on the one side, and a sea-bed on the other. There occurs a very interesting instance of this arrangement in the bold line of coast on the northern shore of the Moray Firth, so often alluded to in a previous chapter as extending between the Southern Sutor and the Hill of Eathie, and which forms the wall of a portion of the roof-like ridge last described. The sea first broke in a long line through strata of red and gray shale, next through a thick bed of pale-yellow stone, then through a continuous bed of stratified clays and nodular limestone, and last of all through a bed, thicker than any of the others, of indurated red sandstone. The line of cliffs formed in this way rises abruptly for about a hundred yards on the one hand; the shore stretches out for more than double the same space on the other; on both sides the beds exactly correspond; and to ascend in the line of the strata from the foot of the cliffs, we have either to climb the hill, or to pass downwards at low ebb to the edge of the sea. The section is of interest, not only from the numerous organisms, animal and vegetable, which its ichthyolite beds contain, but from the illustration which it also furnishes of denudation to a vast extent from causes still in active operation. A line of precipices a hundred yards in height and more than two miles in length has been dug out of the slope by the slow wear of the waves, in the unreckoned course of that period during which the present sea was bounded in this locality by the existing line of coast.—(*The Old Red Sandstone.*)

## XV

## THE DISCOVERY OF THE "WINGED-FISH"

[The first specimens of the strange fish, *Pterichthys*, were found by Hugh Miller at Cromarty in the year 1831 (see previous extract), in the too abundant leisure hours of a carver and inscriber of tombstones. As the years passed, he steadily added to his collection, piecing together the various parts with patient enthusiasm and no little skill. As a result of the geological references in *Scenes and Legends*, he was visited in 1837 by Dr. Malcolmson,<sup>1</sup> who, directed by what Miller had done, made similar discoveries in the Old Red of the counties farther east, and brought Miller's finds under the direct notice of Agassiz and Sir Roderick Murchison—the former the leading authority upon fossil fishes, and the latter the most prominent geologist of his day in Britain. To this particular creature, so entirely novel, Agassiz gave the name, from its appearance, of *Pterichthys* (winged-fish), and, specifically, of *Milleri*, in honour of its discoverer. The name was first published at the Glasgow Meeting of the British Association, 1840; but no detailed description appeared till that which follows took the ear of the scientific world in the pages of *The Old Red Sandstone* (1841). This description was accompanied by figures showing the upper and lower surfaces of the animal as restored from his specimens by the discoverer, "which," says Dr. Traquair, our leading Scottish ichthyologist, "if neither perfect nor faultless, certainly showed that Miller had managed, even at that time, to attain a remarkable insight into the structure and configuration of this singular creature." Agassiz, on the contrary, with all his training and experience, made extraordinary mistakes in his own efforts at restoration. A

<sup>1</sup> Dr. Traquair would therefore seem to be wrong in stating that Malcolmson discovered *Pterichthys* "independently" of Miller, in 1839.

cardboard model of *Pterichthys* constructed by Miller is preserved in the Natural History Museum, London.

Agassiz speedily classified several species of *Pterichthys*, which were added to by others; but the differences upon which these were based have been shown by Traquair to be really of quite minor importance, and due to differences in the condition of preservation which varies with the localities in which they are found. On these grounds he has reduced the possible number of Scottish species to three, and has, further, given good reasons for holding that there is really only one species represented in the Orcadian rocks, of which *Milleri* is perhaps the female. Miller's introduction was therefore a case of *Place aux dames*.

Fossils of *Pterichthys* which are found in the Moray Firth Old Red, in Caithness and in Orkney, generally show the creature flattened from above; it is rare to find it on its side. Examples have been taken also from the Old Red of Eastern Canada, and one, *Pterichthys Rhenanus*, comes from the Middle Devonian of Germany. These are generally small, and the maximum length of the creature does not seem to have exceeded one foot. It was a true fish and probably lived at the bottom of the waters in which the Old Red was deposited.

(Traquair's *Extinct Vertebrate Animals* in Harvey-Brown and Buckley's *Vertebrate Fauna of the Moray Basin*, vol. ii.; *The Fishes of the Red Sandstone*,<sup>1</sup> Palaeontographical Socy's. Pub., vols. xlviii, lviii.; *On British Species of Asterolepidæ*, Proc. Royal Phy. Socy., Edinburgh., xi. Ray Lankester's *Extinct Animals*. Goodchild's *Guide to the Geological Collections in Miller's Cottage*.)]

WE find the organisms of the Old Red Sandstone supplying an important link, or rather series of links, in the ichthyological scale, which are wanting in the present creation, and the absence of which evidently occasions a wide gap between the two grand divisions or series of fishes—the bony and the cartilaginous. Of this, however, more anon. Of all the

<sup>1</sup> Page 90.

organisms of the system, one of the most extraordinary, and the one in which Lamarck<sup>1</sup> would have most delighted, is the *Pterichthys*, or winged fish, an ichthyolite which the writer had the pleasure of introducing to the acquaintance of geologists nearly three years ago, but which he first laid open to the light about seven years earlier. Had Lamarck been the discoverer, he would unquestionably have held that he had caught a fish almost in the act of wishing itself into a bird. There are wings which want only feathers, a body which seems to have been as well adapted for passing through the air as in the water, and a tail by which to steer. And yet there are none of the fossils of the Old Red Sandstone which less resemble anything that now exists than its *Pterichthys*. I fain wish I could communicate to the reader the feeling with which I contemplated my first found specimen. It opened with a single blow of the hammer; and there, on a ground of light-coloured limestone, lay the effigy of a creature fashioned apparently out of jet, with a body covered with plates, two powerful-looking arms articulated at the shoulders, a head as entirely lost in the trunk as that of the ray or the sun-fish, and a long angular tail. My first-formed idea regarding it was, that I had discovered a connecting link between the tortoise and the fish: the body much resembles that of a small turtle; and why, I asked, if one formation gives us sauroid<sup>2</sup> fishes, may not another give us chelonian<sup>3</sup> ones? or if in the Lias we find the body of the lizard mounted on the paddles of the whale, why not find in the Old Red Sandstone the body of the tortoise mounted in

<sup>1</sup> (1744-1829).—One of the founders of modern palaeontology and an early evolutionist on the basis of the transmission of characters acquired through modification by environment. Miller, of course, rejected any "development" hypothesis.

<sup>2</sup> Reptilean.

<sup>3</sup> Tortoise-like.



a somewhat similar manner? The idea originated in error; but as it was an error which not many naturalists could have corrected at the time, it may be deemed an excusable one, more especially by such of my readers as may have seen well-preserved specimens of the creature. I submitted some of my specimens to Mr. Murchison, at a time when that gentleman was engaged among the fossils of the Silurian System,<sup>1</sup> and employed on his great work, which has so largely served to extend geological knowledge regarding those earlier periods in which animal life first began. He was much interested in the discovery: it furnished the geologist with additional data by which to regulate and construct his calculations, and added a new and very singular link to the chain of existence in its relation to human knowledge. Deferring to Agassiz as the highest authority, he yet anticipated the decision of that naturalist regarding it in almost every particular. I had inquired, under the influence of my first impression, whether it might not be considered as a sort of intermediate existence between the fish and the chelonian. He stated, in reply, that he could not deem it referrible to any family of reptiles; that, if not a fish, it approached more closely to the crustacea than to any other class; and that he had little doubt Agassiz would pronounce it to be an ichthyolite of that ancient order to which the *Cephalaspis*<sup>2</sup> belongs, and which seems to have formed a connecting link between crustacea and fishes. The specimens submitted to Mr. Murchison were forwarded to Agassiz. They were much more imperfect than some which I have since disinterred;

<sup>1</sup> Underlying the Old Red Sandstone or Devonian System.

<sup>2</sup> A "buckler-headed" fish found also in Upper Silurian just below the Old Red, having the head-shield, when flattened, shaped like a saddler's knife.

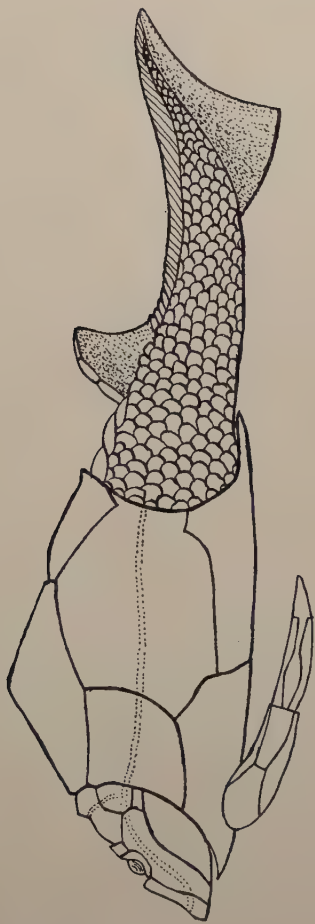


and to restore the entire animal from them would require powers such as those possessed by Cuvier<sup>1</sup> in the past age, and by the naturalist of Neufchatel in the present. Broken as they were, however, Agassiz at once decided from them that the creature must have been a fish.

I have placed one of the specimens before me. Imagine the figure of a man rudely drawn in black on a gray ground; the head cut off by the shoulders; the arms spread at full, as in the attitude of swimming; the body rather long than otherwise, and narrowing from the chest downwards; one of the legs cut away at the hip-joint, and the other, as if to preserve the balance, placed directly under the centre of the figure, which it seems to support. Such, at a first glance, is the appearance of the fossil. The body was of very considerable depth—perhaps little less deep proportionally from back to breast than the body of the tortoise; the under part was flat; the upper rose towards the centre into a roof-like ridge; and both under and upper were covered with a strong armour of bony plates,<sup>2</sup> which, resembling more the plates of the tortoise than those of the crustacean, received their accessions of growth at the edges or sutures. The plates on the under side are divided by two lines of suture, which run, the one longitudinally through the centre of the body, the other transversely, also through the centre; and they would cut one another at right angles, were there not a lozenge-shaped plate inserted at the point where they would otherwise meet. There are thus five plates on the lower or belly part of the animal. They are all thickly tubercled outside

<sup>1</sup>(1769-1832).—A great name in Palaeontology; was specially distinguished as an anatomist.

<sup>2</sup>The plates are traversed by shallow grooves supposed to represent sense organs.



THE "WINGED-FISH" : *Pterichthys Milleri*  
(del. W. M. M. after Traquair)



with wart-like prominences:<sup>1</sup> the inner present appearances indicative of a bony structure. The plates on the upper side are more numerous and more difficult to describe, just as it would be difficult to describe the forms of the various stones which compose the ribbed and pointed roof of a Gothic cathedral, the arched ridge or hump of the back requiring, in a somewhat similar way, a peculiar form and arrangement of plates. The apex of the ridge is covered by a strong hexagonal plate, fitted upon it like a cap or helmet, and which nearly corresponds in place to the flat central plate of the under side. There runs around it a border of variously-formed plates, that diminish in size and increase in number towards the head, and which are separated, like the pieces of a dissected map, by deep sutures. They all present the tubercled surface. The eyes are placed in front, on a prominence considerably lower than the roof-like ridge of the back; the mouth seems to have opened, as in many fishes, in the edge of the creature's snout, where a line running along the back would bisect a line running along the belly; but this part is less perfectly shown by my specimens than any other. The two arms or paddles<sup>2</sup> are placed so far forward as to give the body a disproportionate and decapitated appearance. From the shoulder to the elbow, if I may employ the terms, there is a swelling muscular appearance, as in the human arm; the part below is flattened so as to resemble the blade of an oar, and

<sup>1</sup> Whence the name of the family, *Asterolepidæ* ("starry-scaled")—*Asterolepis*, *Pterichthys*, *Bothriolepis* ("channel-scale"), *Microbrachius* ("little-arm") (Traquair) spec. *Dicki* after Miller's Thurso friend, the baker-geologist, Robert Dick. Miller's *Asterolepis* in *Footprints of the Creator* is a make-up of different creatures, and belongs mainly to a different order.

<sup>2</sup> Made up of plates also, but hollow.

terminates in a strong, sharp point.<sup>1</sup> The tail—the one leg on which, as exhibited in one of my specimens, the creature seems to stand—is of considerable length, more than equal to a third of the entire figure, and of an angular form, the base representing the part attached to the body, and the apex its termination.<sup>2</sup> It was covered with small tubercled rhomboidal plates, like scales; and where the internal structure is shown there are appearances of a vertebral column, with rib-like processes standing out at a sharp angle. The ichthyolite, in my larger specimens, does not much exceed seven inches in length; and I despatched one to Agassiz rather more than two years ago, whose extreme length did not exceed an inch. Such is a brief, and, I am afraid, imperfect sketch of a creature whose very type seems no longer to exist.

Agassiz, in the course of his late visit to Scotland, found six<sup>3</sup> species of the *Pterichthys*—three of these, and the wings of a fourth, in the collection of the writer. The differences by which they are distinguished may be marked by even an unpractised eye, especially in the form of the bodies and wings. Some are of a fuller, some of a more elongated form: in some the body resembles a heraldic shield, of nearly the ordinary shape and proportions; in others, the shield stretches into a form not very unlike that of a Norway skiff from the midships forward. In some of the varieties, too, the wings are long and comparatively slender; in others, shorter and of greater breadth: in some there is an inflection resembling the bend of an elbow; in others there is a continuous swelling from the termination to the shoulder,

<sup>1</sup> Characteristic of *P. Milleri* and *P. Oblongus*. *P. Productus*, the probable male of *Milleri*, has the terminations of the arms flattened.

<sup>2</sup> There is also a dorsal fin.

<sup>3</sup> But see introductory note.

where a sudden narrowing takes place immediately over the articulation. I had inferred somewhat too hurriedly, though perhaps naturally enough, that these wings or arms, with their strong sharp points and oar-like blades, had been at once paddles and spears—instruments of motion and weapons of defence; and hence the mistake of connecting the creature with the Chelonia. I am informed by Agassiz, however, that they were weapons of defence only, which, like the occipital spines of the river bull-head, were erected in moments of danger or alarm, and at other times lay close by the creature's side; and that the sole instrument of motion was the tail, which, when covered by its coat of scales, was proportionally of a somewhat larger size than the tail shown in the print, which, as in the specimens from which it was taken, exhibits but the obscure and uncertain lineaments of the skeleton. The river bull-head, when attacked by an enemy, or immediately as it feels the hook in its jaws, erects its two spines at nearly right angles with the plates of the head, as if to render itself as difficult of being swallowed as possible. The attitude is one of danger and alarm; and it is a curious fact, to which I shall afterwards have occasion to advert, that in this attitude nine-tenths of the *Pterichthys* of the Lower Old Red Sandstone are to be found. We read in the stone a singularly-preserved story of the strong instinctive love of life, and of the mingled fear and anger implanted for its preservation—"The champions in distorted postures threat." It presents us, too, with a wonderful record of violent death falling at once, not on a few individuals, but on whole tribes.

At this period of our history some terrible catastrophe involved in sudden destruction the fish of an area at least a hundred miles from boundary to boundary, perhaps much



more. The same platform in Orkney as at Cromarty is strewn thick with remains which exhibit unequivocally the marks of violent death. The figures are contorted, contracted, curved; the tail in many instances is bent round to the head; the spines stick out; the fins are spread to the full, as in fishes that die in convulsions. The *Pterichthys* shows its arms extended at their stiffest angle, as if prepared for an enemy. The attitudes of all the ichthyolites on this platform are attitudes of fear, anger, and pain. The remains, too, appear to have suffered nothing from the after attacks of predaceous fishes: none such seem to have survived. The record is one of destruction at once widely spread, and total so far as it extended. There are proofs that, whatever may have been the cause of the catastrophe, it must have taken place in a sea unusually still. The scales, when scattered by some slight undulation, are scattered to the distance of only a few inches, and still exhibit their enamel entire, and their peculiar fineness of edge. The spines, even when separated, retain their original needle-like sharpness of point. Rays well nigh as slender as horse-hairs are inclosed unbroken in the mass. Whole ichthyolites occur, in which not only all the parts survive, but even the expression which the stiff and threatening attitude conveyed when the last struggle was over. Destruction must have come in the calm, and it must have been of a kind by which the calm was nothing disturbed. In what could it have originated? By what quiet but potent agency of destruction were the innumerable existences of an area perhaps ten thousand square miles in extent annihilated at once, and yet the medium in which they had lived left undisturbed by its operations? Conjecture lacks footing in grappling with the enigma, and expatiates in uncertainty over all the known phenomena of death. Diseases of mysterious origin break out at times in the animal kingdom,

and well nigh exterminate the tribes on which they fall. The present generation has seen a hundred millions of the human family swept away by a disease unknown to our fathers. Virgil describes the fatal murrain that once depopulated the Alps, not more as a poet than as a historian. The shell-fish of the rivers of North America died in such vast abundance during a year of the present century, that the animals, washed out of their shells, lay rotting in masses beside the banks, infecting the very air. About the close of the last century the haddock well nigh disappeared for several seasons together from the eastern coasts of Scotland; and it is related by Creech,<sup>1</sup> that a Scotch shipmaster of the period<sup>2</sup> sailed for several leagues on the coast of Norway, about the time the scarcity began, through a floating shoal of dead haddocks. But the ravages of no such disease, however extensive, could well account for some of the phenomena of this platform of death. It is rarely that disease falls equally on many different tribes at once, and never does it fall with instantaneous suddenness; whereas in the ruin of this platform from ten to twelve distinct genera seem to have been equally involved; and so suddenly did it perform its work, that its victims were fixed in their first attitude of terror and surprise. I have observed, too, the groups of adjoining nodules are charged frequently with fragments of the same variety of ichthyolite; and the circumstances seem fraught with evidence regarding both the original habits of the creatures, and the instantaneous suddenness of the destruction by which they were overtaken. They seem, like many of our existing fish, to have been gregarious, and to

<sup>1</sup> William Creech (1745-1815), a famous Edinburgh publisher. The reference is to his third "Letter to Sir John Sinclair."

<sup>2</sup> 1789.

have perished together ere their crowds had time to break up and disperse.

Fish have been found floating dead in shoals beside submarine volcanoes—killed either by the heated water or by mephitic gases. There are, however, no marks of volcanic activity in connection with the ichthyolite beds—no marks at least which belong to nearly the same age with the fossils. The disturbing granite of the neighbouring eminences was not upheaved until after the times of the Oolite.<sup>1</sup> But the volcano, if such was the destroying agent, might have been distant; nay, from some of the points in an area of such immense extent, it *must* have been distant. The beds abound, as has been said, in lime; and the thought has often struck me that calcined lime, cast out as ashes from some distant crater, and carried by the winds, might have been the cause of the widely-spread destruction to which their organs testify. I have seen the fish of a small trouting stream, over which a bridge was in the course of building, destroyed in a single hour, for a full mile below the erection, by the few troughfuls of lime that fell into the water when the centring was removed.—(*The Old Red Sandstone.*)

<sup>1</sup> See Extract XXXII.

---

## XVI

## LETTER TO LORD BROUGHAM

[The famous *Letter to Lord Brougham from one of the Scotch People* was the turning-point in Miller's career. He was accountant in the Cromarty branch of the Commercial Bank at the time, a post to which he had been appointed in the spring of 1834; so that the opening sentence must be liberally interpreted. The occasion has now, of course, become ancient history. Patronage had not yet been abolished. In 1834 the General Assembly of the Church of Scotland passed a Veto Act requiring Presbyteries not to settle a minister if disapproved of by a majority of the congregation. Later in the same year, Mr. Young was presented by Lord Kinnoul to the parish of Auchterarder in Perthshire, only two of the parishioners signing the formal call. Five-sixths of the members of the congregation protested against the settlement, and ordination was therefore refused. Patron and presentee took the case to the Court of Session, and in the spring of 1838 a decision was given in their favour—the Veto Act being thus declared *ultra vires* of the Church. The Assembly thereupon appealed to the House of Lords, which sustained the judgment of the Lower Court (2nd May, 1839). Lord Brougham was personally conspicuous in the affair from having earlier expressed approval of the Veto Act; from his activities in extending the Parliamentary franchise; and from the somewhat scornful terms in which he expressed his judgment. Miller, a keen Churchman, already locally conspicuous in ecclesiastical politics, felt himself summoned to action; and in a week produced a red-hot indictment of the judgment, and Lord Brougham in particular. It was printed for the delighted Evangelical party, circulated widely and produced much sensation, receiving an eulogium even from Mr. Gladstone. The momentous result for the author was his selection as editor of

the projected newspaper, *The Witness*, which was to carry on a propaganda on behalf of the Evangelicals. The first issue appeared on the 15th January, 1840. Miller remained editor till his death (1856); but under his control and part-proprietorship the paper took a more general colour, becoming finally in the main an expression of his personality, and not long surviving him. The following extracts form about one-fourth of the pamphlet; the historical argumentation has been omitted.]

MY LORD,—I am a plain working man, in rather humble circumstances, a native of the north of Scotland, and a member of the Established Church. I am acquainted with no other language than the one in which I address your Lordship; and the very limited knowledge which I possess has been won slowly and painfully from observation and reflection, with now and then the assistance of a stray volume, in the intervals of a laborious life. I am not too uninformed, however, to appreciate your Lordship's extraordinary powers and acquirements; and as the cause of freedom is peculiarly the cause of the class to which I belong, and as my acquaintance with the evils of ignorance has been by much too close and too tangible to leave me indifferent to the blessings of education, I have been no careless or uninterested spectator of your Lordship's public career. No, my Lord, I have felt my heart swell as I pronounced the name of Henry Brougham.

With many thousands of my countrymen, I have waited in deep anxiety for your Lordship's opinion on the Auchterarder case. Aware that what may seem clear as a matter of right may be yet exceedingly doubtful as a question of law—aware, too, that your Lordship had to decide in this matter, not as a legislator, but as a judge—I was afraid that, though you yourself might be our friend, you might yet have to pronounce the law our enemy. And yet, the bare majority by which the case had been carried against us in the Court

of Session—the consideration, too, that the judges who had declared in our favour rank among the ablest lawyers and most accomplished men that our country has ever produced—had inclined me to hope that the statute-book, as interpreted by your Lordship, might not be found very decidedly against us. But of you yourself, my Lord, I could entertain no doubt. You had exerted all your energies in sweeping away the Old Sarums and East Retfords of the constitution. Could I once harbour the suspicion that you had become tolerant of the Old Sarums and East Retfords of the Church? You had declared, whether wisely or otherwise, that men possessed of no property qualification, and as humble and as little taught as the individual who now addresses you, should be admitted, on the strength of their moral and intellectual qualities alone, to exercise a voice in the Legislature of the country. Could I suppose for a moment, that you deemed that portion of these very men which falls to the share of Scotland unfitted to exercise a voice in the election of a parish minister? or rather—for I understate the case—that you held them unworthy of being emancipated from the thralldom of a degrading law, the remnant of a barbarous code, which conveys them over by thousands and miles square to the charge of patronage-courting clergymen, practically unacquainted with the religion they profess to teach? Surely the people of Scotland are not so changed but that they know at least as much of the doctrines of the New Testament as of the principles of civil government, and of the requisites of a gospel minister, as of the qualifications of a Member of Parliament!

You have decided against us, my Lord. You have even said that we had better rest contented with the existing statutes, as interpreted by your Lordship, than involve ourselves in the dangers and difficulties of a new enactment.



Nay, more wonderful still, all your sympathies on the occasion seem to have been reserved for the times and the memory of men who first imparted its practical efficiency to a law under which we and our fathers have groaned, and which we have ever regarded as not only subversive of our natural rights as men, but of our wellbeing as Christians. Highly as your Lordship estimates our political wisdom, you have no opinion whatever of our religious taste and knowledge. Is it at all possible that you, my Lord, a native of Scotland, and possessed of more general information than perhaps any other man living, can have yet to learn that we have thought long and deeply of our religion, whereas our political speculations began but yesterday—that our popular struggles have been struggles for the right of worshipping God according to the dictates of our conscience, and under the guidance of ministers of our own choice—and that, when anxiously employed in finding arguments by which rights so dear to us might be rationally defended, our discovery of the principles of civil liberty was merely a sort of chance-consequence of the search? Examine yourself, my Lord. Is your mind free from all bias in this matter? Are you quite assured that your admiration of an illustrious relative, at a period when your judgment was comparatively uninformed, has not had the effect of rendering *his* opinions *your* prejudices? Principal Robertson<sup>1</sup> was unquestionably a great man; but consider in what way: great as a leader—not as a “Father in the Church”—it is not to ministers such as the Principal that the excellent among my countrymen look up for spiritual guidance amid the temptations and diffi-

<sup>1</sup>(1721–93).—The distinguished “Moderate” leader in the Church during the latter half of the century; author of “elegant” histories of *Scotland*, *Charles V.*, etc. He favoured somewhat harsh treatment of the early Evangelicals.

culties of life, or for comfort at its close : great in literature—not, like Timothy of old, great in his knowledge of the Scriptures—aged men who sat under his ministry have assured me that, in hurrying over the New Testament, he had missed the doctrine of the atonement : great as an author and a man of genius—great in his enduring labours as a historian—great in the sense in which Hume, and Gibbon, and Voltaire were great. But who can regard the greatness of such men as a sufficient guarantee for the soundness of the opinions which they have held, or the justice or wisdom of the measures which they have recommended? The law of patronage is in no degree the less cruel or absurd from its having owed its re-enactment to so great a statesman and so ingenious a writer as Bolingbroke ; nor yet from its having received its full and practical efficiency from so masterly a historian and so thorough a judge of human affairs as Robertson ; nor yet, my Lord, from the new vigour which it has received from the decision of so profound a philosopher and so accomplished an orator as Brougham.

. . . . .

I have striven, my Lord, to acquaint myself with the history of my Church. I have met with a few old books, and have found time to read them ; and, as the histories of Knox, Calderwood, and Wodrow have been among the number, I do not find myself much at the mercy of any man on questions connected with our ecclesiastical institutions, or the spirit which animated them. Some of the institutions themselves are marked by the character of the age in which they were produced ; for we must not forget that the principles of toleration are as much the discovery of a later time as those principles on which we construct our steam-engines. But the spirit which lived and breathed in them was essentially that “spirit with which Christ maketh his people free.”

Nay, the very intolerance of our Church was of a kind which delighted to arm its vassals with a power before which all tyranny, civil or ecclesiastical, must eventually be overthrown. It compelled them to quit the lower levels of our nature for the higher. It demanded of them that they should be no longer immoral or illiterate. It was the Reformed Church of Scotland that gave the first example of providing that the children of the *poor* should be educated at the expense of the State. Not Henry Brougham himself could have been more zealous in sending the schoolmaster abroad. But ignorance, superstition, immorality, above all, an intolerance of an entirely opposite character, jealous of the knowledge and indifferent to the good of its vassals, were by much too strong for it; and there were times when the Church could do little more than testify against the grinding tyranny which oppressed her, and to the truth and justice of her own principles; and not even this with impunity. I have perused, by the light of the evening fire, whole volumes filled with the death-testimonies of her martyrs. Point me out any one abuse, my Lord, against which she has testified oftener or more strongly than that of patronage, or any one privilege for which she has contended with a more enduring zeal than that for which our General Assembly is contending at this day.

. . . . .

There is, my Lord, a statesman of the present day, quite as eminent as Bolingbroke,<sup>1</sup> who is acting, it is said, a somewhat similar part. It is whispered, that not only can he decide according to an unpopular and an unjust law, which he

<sup>1</sup> The leading minister of the Tory Government which, in contravention of the Act of Union, suddenly reimposed Patronage on the Church of Scotland in 1712, hoping to strengthen the Jacobite party.

secretly condemns, but that he can also praise it as good and wise, and stir up its friends (men of a much narrower range of vision than himself), to give it full force and efficacy; and all this with the direct view of destroying a venerable institution on which this law acts. Now, I cannot credit the insinuation, for I believe that the very able statesman alluded to is an honest man; but I think I can see how he *might act* such a part and act it with very great effect. At no previous period were the popular energies so powerfully developed as in the present; at no former time was it so essentially necessary that institutions which desire to live should open themselves to the infusion of the popular principle. Shut them up in their old chrysalis state from this new atmosphere of life, and they inevitably perish. And these, my Lord, are truths which I can more than see;—I can also feel them. I am one of the people, full of the popular sympathies—it may be, of the popular prejudices. To no man do I yield in the love and respect which I bear to the Church of Scotland. I never signed the Confession of her Faith, but I do more—I believe it; and I deem her scheme of government at once the simplest and most practically beneficial that has been established since the time of the Apostles. But it is the vital spirit, not the dead body, to which I am attached: it is to the free popular Church, established by our Reformers—not to an unsubstantial form or an empty name—a mere creature of expediency and the State: and had she so far fallen below my estimate of her dignity and excellence as to have acquiesced in your Lordship's decision, the leaf holds not more loosely by the tree when the October wind blows highest, than I would have held by a Church so sunk and degraded. And these, my Lord, are the feelings, not merely of a single individual, but of a class, which, though less learned, and, may be, less wise, than the classes

above them, are beyond comparison more numerous, and promise, now that they are learning to think, to become immensely more powerful. Drive our better clergymen to extremities on this question—let but three hundred of them throw up their livings, as the Puritans of England and the Presbyterians of our own country did in the times of Charles II.—and the Scottish Establishment inevitably falls. Your Lordship is a sagacious and far-seeing man. How long, think you, would the English Establishment survive her humbler sister? and how long would the monarchy exist after the extinction of both?

You have entertained a too favourable opinion of the Scottish Church, and she has disappointed your expectations. Scotland is up in rebellion! The General Assembly refuse to settle Mr. Young. Take your seat, my Lord, and try the members of this refractory Court for their new and unheard-of offence. They believe “that the principle of non-intrusion is coeval with the existence of the Church, and forms an integral part of its constitution.” Their consciences, too, are awakened on the subject: they see that forced settlements have done very little good, and a great deal of harm; and that intruded ministers have been the means of converting few souls to Christ, and have, it is feared, in a great many instances, been unconverted themselves. They have, besides, come to believe, with their fathers of old, that God Himself is not indifferent in the matter; and are fearful lest “haply they should be found fighting against Him.” And in this Assembly, my Lord, there are wise and large-minded men—men admired for their genius, and revered for their piety, wherever the light of learning or religion has yet found its way. Now, a certain law of the country, which was passed rather more than a hundred and twenty years ago, through the influence of very bad men, and for a very

bad purpose, has demanded that this Assembly proceed forthwith to impose on a resisting people a singularly unpopular clergyman. And the Assembly have refused—courteously and humbly, 'tis true, but still most firmly. Give to this unpopular clergyman, they say, all the emoluments of the office. We lay no claim to these—we have no right to them whatever; nay, we hold even our own livings by sufferance, and you have the power to take them from us whenever you please. But we must not force this unpopular clergyman on the people: our consciences will not suffer us to do it; and as the laws which control our consciences cannot be altered, whereas those which govern the country are in a state of continual change, suffer us, we beseech you, to confer with the makers of those changing laws, that this bad law may be made so much better as to agree with the fixed law of our consciences. Now, such, my Lord, is the heinous offence committed by these men. You could not believe they were so wicked; you could imagine the crime itself, but not in connection with them; you said it was indecorous, preposterous, monstrous, to believe that *they could* be so wicked. But you did ill to speak of Christ on the occasion. It is against Bolingbroke's law, not the law of Christ, that these men have offended.—(*The Headship of Christ.*)

---



## XVII

SKETCHES OF THE GENERAL ASSEMBLY  
OF 1841

[The Assembly of 1841 was notable for the challenge to the Law Courts on the part of the majority, when, following the example of the Moderates in their days of power in the eighteenth century, they deposed the seven members of the Presbytery of Strathbogie who had disobeyed the orders of the Assembly in favour of those of the Court of Session, and inducted the presentee in the parish of Marnoch, Banffshire. Miller's vivid portraits, for all his efforts at fairness, clearly show the bent of his own sympathies. The amount of phrenological detail illustrates the great influence which this form of thought still exercised, as it had done for a quarter of a century, over philosophical minds.]

DR. GEORGE COOK<sup>1</sup>

WE stand fronting the Lord High Commissioner, a robust, handsome man of forty-nine, in a military uniform, and see the Moderator seated immediately below, and the table of the House in front laden with books and papers. There are one or two men in lawyers' gowns beside it, with large bunches of gray horse-hair on the outsides of their head, and high notions of the Court of Session within. A few leading men surround the table: the antagonist parties are ranged, fronting each other, on the seats that rise on the opposite

<sup>1</sup>Dr. George Cook (1772-1845) was professor of Moral Philosophy in St. Andrews University, and author of a *History of the Reformation* (1810) and a *History of the Church of Scotland* (1815): "trustworthy," though not "lively," reading. — (J. H. Millar's *Literary History of Scotland*, p. 565.)

sides, or mingle together on those in front. Mark how very thin the ranks of Moderatism<sup>1</sup> have become. They occupy merely a few of the nearer seats, forming, as it were, but a front lining to the wide vacuity behind: the party seems melting away, like icebergs in summer. There is, on the contrary, a dense, compact square on the opposite side, that stretches far under the gallery, and which is visibly adding to its numbers year after year. We restrict our sketches at present to the decaying party.

Observe, first, that elderly man seated at the foot of the table. The face, a strongly-marked one, seems indicative of shrewdness and self-possession. The features are somewhat of the Roman cast, except that the nose droops more over the upper lip than in the Roman type, and the cheeks are more pendulous and square, rather militating in their expression—which seems to speak of the languor and relaxation of advanced life—against the general cast of the countenance. The forehead is well and equally developed, but by no means very striking. The same remark applies to the coronal region, which is bald. There is no surplus amount of sentiment, if phrenology speak true, and certainly no marked defect. The head is rather a large one, but by no means of the largest calibre. He is rising to speak, and the general hush shows that the Assembly deem him a man deserving of being attentively listened to. Mark his figure: it is compact, well built, and of the middle size. Age has in no degree exaggerated the rather handsome outline; but we may discover its effects on the figure notwithstanding. He stands with

<sup>1</sup> The Moderates were so called for the “moderation” of their opinions, as well on purely theological as on ecclesiastical questions, in contrast to the Evangelicals, or “Populars,” who were strict Calvinists, and advocates of the rights of congregations as against those of patrons. They had been the dominant party during the eighteenth century.

equal weight on both legs, and the effect is that appearance of stiffness incident to advanced years, which painters remark as inevitable to the attitude. When standing, too, he uses a slender staff. There is nothing particularly emphatic in his mode of speaking; nature never intended that he should be a great orator;—the necessary depth of feeling and vigour of imagination were denied, and he seems to have known it: but shrewdness, self-possession, and good sense, were given; and, availing himself of these to the full extent, he has rendered himself eminently skilful as a debater. He is thoroughly a man of business. Some of our readers must have already recognised in our description Dr. George Cook, ostensibly, if not in reality, the leader of the Moderate party, and unquestionably one of their ablest men.

The reputation of Dr. Cook is a mere shadow beyond the precincts of our ecclesiastical courts. So far from being a European reputation, it is not even a British one. He is the author of a very sensible *History of the Scottish Church*, which people do not read in Scotland, and which is not known elsewhere; and of a very respectable biography of Principal Hill, which gathers dust undisturbed in the shelves of our public libraries. The works of great authors make them a name; but in the case of Dr. Cook the process is reversed: it is his celebrity as a Church leader that has made a name for his works. His historical volumes appeared at nearly the same time with the *Life of Knox*, by Dr. M'Crie, and both works traverse nearly the same ground, and discuss the same principles. What have been their respective histories as literary undertakings, or what the comparative amount of influence which they have exerted on opinion? It is wholly unnecessary to answer the question: it is quite enough to ask it. The great historical genius has reared a monument to the fame of his country conspicuous over Europe, and

whose pregnant record has been translated into well-nigh all her tongues. The man of respectable general talent who set himself to write history is himself a sort of finger-post, visible in a narrow area, by which we contrive to find out his work. The same character of obscure respectability attaches to his labours as Professor of Moral Philosophy in the University of St. Andrews. Is the fact questioned? If ill-founded, it can surely be easily met. What truths has he discovered? What new system has he invented? What old one has he invigorated? What fresh impulse has he given to the study of his science? What striking figure even, or happy illustration, has he originated? Who quotes his remarks? Who asserts his originality? There is but one answer—"None!" Dr. Cook is simply a man of good sense, conversant with tangibilities—things that can be seen and handled; but singularly ill fitted to calculate regarding the invisible elements of power by which the tangible and the material are moved and governed. He is eminently a matter-of-fact man; but the balance by which he weighs is a balance of only one scale, and he overloads it with the temporal and the secular. Few men stand more in need of knowing, as a first principle, that the invisible may be without body, and yet not without weight.

#### DR. ROBERTSON.<sup>1</sup>

Now, mark, beside the Doctor, a man of a very different appearance—in stature not exceeding the middle size, but otherwise of such large proportions, that they might serve a robust man of six feet. We read of ships of the line cut down to frigates, and of frigates cut down to gun-boats.

<sup>1</sup>Dr. James Robertson (1803-1860) took a leading part in building up and strengthening the Church so greatly weakened by the Disruption. Professor of Church History in the University of Edinburgh.

Here is a very large man cut down to the middle size; and, as if still further to exaggerate the figure, there is a considerable degree of obesity besides. Hence a very marked uncouthness of outline, with which the gestures correspond; but it is an uncouthness in which there is nothing ludicrous: it is an uncouthness associated evidently with power, as in the case of Churchill and Gibbon, or in the still better known case of Dr. Johnson. Mark the head. It is of large capacity—one of the largest in the Assembly perhaps, and of formidable development. The region of propensity is so ample, that it gives to the back part of the head a semi-spherical form. The forehead is broad and perpendicular, but low, and partially hidden by a profusion of strong black hair, largely tinged with gray. The development of the coronal region is well-nigh concealed from the same cause; but, judging from the general flatness, it is inferior to that of either the posterior or anterior portions of the head. The features are not handsome; but, in their rudely-blocked massiveness, there are evident indications of coarse vigour. He speaks, and the voice seems as uncommon as the appearance of the man. There is a mixture of very deep and very shrill tones; and the effect is heightened still further by a strong northern accent; but it rings powerfully on the ear, and, in even the remoter galleries, not a single tone is lost. That man might address in the open air some eight or ten thousand persons: he is the very *beau ideal* of a vigorous democrat—a popular leader born for a time of tumults and commotions. Dr. Johnson threatened on one occasion to raise a mob; and no one acquainted with his indomitable force of character can doubt that Dr. Johnson could have done it, and that the mob would have looked up to him as their leader. The man we describe—if there be truth in natural signs, or if nature has written her mark with no wilful intention to deceive—

could lead, and head a mob too. But where is conjecture carrying us? That uncouth, powerful-looking man, so fitted apparently for leading the masses broke loose, is the great friend and *confidant*, and, so far at least as argument and statement are concerned, the grand caterer—flapper, as Gulliver would perhaps say—of the Tory Earls of Dalhousie, Haddington, and Aberdeen. If nature intended him for a popular leader, never surely was there an individual more sadly misplaced. We have before us the redoubtable Mr. Robertson of Ellon—the second name, and the first man, of his party.

Mr. Robertson is a good illustration of what can be accomplished by sheer force of character. He is eminent in no one department of literature or science. His mind is as little elegant as his person. His style is cumbrous and heavy; unenlightened by fancy, or uninformed by philosophical principle. His range of fact is exceedingly narrow; his learning not above the average of country clergymen. He set himself to promulgate to the world, in a bulky pamphlet, the views on Non-Intrusion entertained by the early Reformers; and, omitting entirely the previous step of first acquainting himself with what he professed to communicate, he drew his knowledge, as he wrote, from the speeches of the Lords of Session in the Auchterarder case, copying, all unwittingly, in his extracts, the very blunders of the printer as part of the text. He pronounced on the judgment of Calvin at a time when he only knew Calvin in the quotation of Lord Medwyn. And yet, though thus superficial and unaccomplished, with no name beyond the Scottish Church or the present controversy, Mr. Robertson is undoubtedly the natural head of his party—the leader of the forlorn hope of Moderatism. He has character, courage, momentum, and unyielding firmness.



DR. CHALMERS.<sup>1</sup>

The Moderator again rises. A loud ruffling noise has broken out in the galleries; at least two-thirds of the members of Assembly have joined in it; and the business of the Court is interrupted. A very distinguished member has just entered. He is a man well stricken in years. His pace is slow, and his locks, like those of the two gentlemen just described, are bathed in silver—"the lyart haffets wearing thin and bare." His person is large and massy, though his stature does not perhaps exceed five feet nine or five feet ten inches; and there is no tendency to obesity. He is very plainly dressed. The complexion is pale, the face large, and the features uncommonly firm and massy. There is an inexplicable, mysterious, undescribable something in the expression, that inspires awe and respect. And mark the head. It would be saying marvellously little were we but to say that there is not such another head in the House—we may add, not such another head in Edinburgh, in Scotland, Britain, Europe. The breadth across the forehead is what the phrenologists term not simply large, but enormous. The length, too, in profile, is so very great, that the bulky heads around seem but of moderate size. The front portion, however, from the ear to the forehead, is considerably massier in proportion than the posterior region, and stands up more conspicuously; and there is a noble development a-top. He has seated himself a few feet to the Moderator's left. The

<sup>1</sup>Thomas Chalmers (1780-1847), starting as a Moderate, became the leader of the Non-Intrusion or Evangelical party, and, with Hugh Miller, the main force in bringing about the formation of the Free Church. A mathematician, an original and practical economist, and an impressive, though, after the fashion of the day, a rather "eloquent" and long-winded preacher and orator, he was the most outstanding ecclesiastical figure in Scotland.

grave, deep expression seems as fixed as the features to which they impart so solemn a character. But he is evidently following the speaker—one of the most powerful in the House—with much interest, and all at once the countenance is lighted up in a manner as difficult to describe as the expression which has just disappeared. We can compare it to but the sudden lighting up of an alabaster vase, or to an instantaneous gleam of sunshine. The expression slowly changes, until it has passed into the more habitual one; and he rises to address the Assembly. All at once, every individual present has grown a zealous conservator of the peace; but for half a moment the “hush, hush,” is too general, and makes more noise than it allays.

The speech has the disadvantage of being read, not spoken, and read at first with several stops and interruptions, and in a rather low though audible tone. But there is an intense attention already excited, despite the apparent disadvantages. As the speaker proceeds, the voice rises, strengthens, deepens, till it seems to roll in thunder through the House. There is energetic action, confined chiefly, however, to the right arm and shoulder. The earnestness is overpowering: even the dullest hearer, firing as he listens, feels himself carried along by the o’ermastering force of an eloquence whose components can scarce be analyzed, but which is at once power of character, of argument, and of illustration—an irresistible sincerity, that, through a magic sympathy, makes others sincere too, at least for the time—and a vehement poetry, that seems but to pass through the imagination that it may assail and overpower the heart. Eloquence has been compared to a stream; but here the comparison seems inadequate. We must have overbearing ponderosity and heat, as well as resistless rapidity. We must have weight as well as motion. If we illustrate by a stream at all, it must be by a stream of

dense molten lava pouring down the steep side of a mountain, and floating away on its surface rock and stones, and entire buildings. "There is no man," said Jeffrey of the present speaker, "that so enables me to form a conception of the oratory of Demosthenes." Need we name the far known leader of the Scottish Church, Dr. Thomas Chalmers, "the greatest of living Scotsmen,"—or attempt drawing the character of a man more extensively known than perhaps any other of the present age, and destined to grow upon posterity?

DR. CANDLISH.<sup>1</sup>

Mark, in the same corner of the house, but several seat-breadths further away from the Moderator, a person of a very different appearance. He is below the middle stature, and, though turned of thirty by perhaps five or six years, seems at this distance, from the smallness of his features and figure, some years younger. His person is well-formed, his features good, and the expression seems indicative of great activity and energy. The forehead is very remarkable. We are by no means sure of the truth of phrenology in its minuter details; but nature does certainly seem to set her mark on the foreheads of men of extraordinary capacity. In the man before us, the part immediately above the eyes—the seat, it is alleged, of the knowing organs—is in exact proportion to the face below; but the upper part swells out in the region of causality and comparison, especially in the former, so that it projects on either side, and forms a broad bar across. There is perhaps scarce a head in the kingdom

<sup>1</sup> Robert Smith Candlish (1806-73) minister of St. George's, Edinburgh, was a keen and able controversialist. He had been active in bringing Miller to Edinburgh and was afterwards the chief agent in causing the breach between the Church and the *Witness* (1846). (See Bayne's *Life and Letters of Hugh Miller*, vol. ii., chap. v.)

in which the reflective organs are more amply developed; and the mind consorts well in this instance with the material indications. They mark decidedly one of the ablest men in the Church—a man fitted for every walk of literature—whether power or elegance of intellect, just taste, or nice discrimination, be the qualities required.

The gentleman has risen to address the Assembly, and a general “hush” runs along the galleries, like that which greeted the speaker previously described. The voice is clear and well-modulated; the action simple. The arm is stretched out at an angle raised a very little above the horizontal; but as the speaker warms, the angle rises. Mark, first, the wonderful flow of language. Of all the members of the Assembly, that member has perhaps the readiest command of English; and his spoken style the most nearly approaches to a written one. The words pour in a continuous stream, fitting themselves with a singular flexibility, to every object which they encircle in their course; insinuating themselves, if we may so speak, into the innermost intricacies of every thought; sweeping, with a steady certainty, along the lines of every distinction, however nicely drawn; and, while thus exquisitely true to the mental processes whose findings they signify, modulating themselves, as if by some such natural law as that which gives regularity and beauty to the crystal, into the combinations which best satisfy the ear, and accord most truly with the rules of composition as an art. Language is a noble instrument, though there be but few who can awaken all its tones. There is something very different in the extempore power here exhibited, from that, slowly exerted through complete mastery over language, shown by our more accomplished writers—something so different, that it is a comparatively rare matter to find the same individual pos-

sessed of both. The language of Fox, so fluent and powerful in debate, trickled but slowly, and not very gracefully, from his pen. The written style of Chatham was loose, redundant, and not overladen with meaning. And both Dryden and Addison, on the other hand, and, we may add, our own countryman Adam Smith, though great masters of English as authors—men thoroughly acquainted with every nicety and elegance of the tongue—could scarce find words enough, when they spoke, to express their commonest ideas. But some few happy geniuses have been masters of language in both departments, and have spoken and written with equal power and facility; and we have one of these in the speaker before us.

The subject of the speech is a question of heresy. There have been numerous charges preferred against the panel, all of them very serious—all referring to beliefs within whose sphere of operation the offer of the gospel must have been rendered of non-effect; but they have been submitted to the Court in a detached and separate form, and we feel disposed to wonder how any one mind could have fallen into error on so many different points. Mark how the speaker grapples with the subject—how he traces the various branches of heresy to one common root—demonstrating to the conviction of all that they form parts of a coherent system—a system as coherent as that of Robert Owen, or Hume, or Hobbes; and that the panel, having once laid down his erroneous first principles, must have been as miserable a logician as a divine, had he not derived from them all the various inductions of error, which form the counts of the indictment. And, this point firmly established, mark now how the speaker brings the various counts to the standard of God's Word. Mark how irresistibly complete in every case the demonstration of the errors, and yet how very brief the statement. We need

hardly add, that this singularly able and accomplished man is the gentleman whom the Earl of Aberdeen would have so fain recommended to the Calton Jail<sup>1</sup>—the Rev. Mr. Candlish of St. George's.—(From *The Witness*, in "*The Headship of Christ*.")

<sup>1</sup> For preaching within the parish of one of the deposed Strathbogie ministers, contrary to the interdict of the Court of Session.

---

## XVIII

### THE DISRUPTION

[On the 18th May, 1843, the Evangelical members of the General Assembly separated themselves from the Church of Scotland on the grounds that the "spiritual independence" of the Church had been invaded by the decisions of the Courts of Law. To this outcome had developed the Non-Intrusion controversy—the opposition to the settlement of ministers in parishes against the wish of the majority of the parishioners—which had been going on in the Church for the past century and a half, and had already resulted in the formation of the "Secession" and "Relief" Churches, afterwards merged in the United Presbyterian body. The Disruption added the "Free Church of Scotland." The actual numbers who left are disputed. The "Deed of Demission" is said to have been signed in all by 474 ministers: other sources give the total number as slightly over 450. The bitter and jeering tone of Miller's description is typical of the sort of feeling that pervaded the controversy, and was to continue for a generation. A good deal of the more harshly expressed matter has here been removed.]

THE early part of Thursday had its periods of fitful cloud and sunshine, and the tall, picturesque tenements of the Old Town now lay dim and indistinct in shadow, now stood



prominently out in the light. There was an unusual throng and bustle in the streets at a comparatively early hour, which increased greatly as the morning wore on towards noon. We marked, in especial, several knots of Moderate clergy hurrying along to the levee, laughing and chatting with a vivacity that reminded one rather of the French than of the Scotch character, and evidently in that state of nervous excitement which, in a certain order of minds, the near approach of some very great event, indeterminate and unappreciable in its bearings, is sure always to occasion.

As the morning wore on, the crowds thickened in the streets, and the military took their places. The principles involved in the anticipated Disruption gave to many a spectator a new association with the long double line of dragoons that stretched adown High Street, far as the eye could reach, from the venerable Church of St. Giles, famous in Scottish story, to the humbler Tron. The light flashed fitfully on their long swords and helmets, and the light scarlet of their uniforms contrasted strongly with the dingier vestments of the masses, in which they seemed as if more than half engulfed. When the sun glanced out, the eye caught something peculiarly picturesque in the aspect of the Calton Hill, with its imposing masses of precipices overtopped by towers and monuments, and its intermingling bushes and trees now green with the soft, delicate foliage of May. Between its upper and under line of rock, a dense living belt of human beings girdled it round, sweeping gradually downwards from shoulder to base, like the sash of his order on the breast of a nobleman. The Commissioner's procession passed, with sound of trumpet and drum, and marked by rather more than the usual splendour. There was much bravery and glitter—satin and embroidery, varnish and gold lace—no lack, in short, of that cheap and vulgar magnificence

which can be got up to order by the tailor and the upholsterer for carnivals and Lord Mayor's days. But it was felt by the assembled thousands, as the pageant swept past, that the real spectacle of the day was a spectacle of a different character.

The morning levee had been marked by an incident of a somewhat extraordinary nature, and which history, though in these days little disposed to mark prodigies and omens, will scarce fail to record. The crowd in the Chamber of Presence was very great, and there was, we believe, a considerable degree of confusion and pressure in consequence. Suddenly—whether brushed by some passer by, jostled rudely aside, or merely affected by the tremor of the floor communicated to the partitioning—a large portrait of William the Third, that had held its place in Holyrood for nearly a century and a half, dropped heavily from the walls. "There," exclaimed a voice from the crowd—"there goes the Revolution Settlement."<sup>1</sup>

For hours before the meeting of Assembly, the galleries of St. Andrew's Church, with the space behind, railed off for the accommodation of office-bearers not members, were crowded to suffocation, and a vast assemblage still continued to besiege the doors. The galleries from below had the "overbellying" appearance in front described by Blair, and seemed as if piled up to the roof behind. Immediately after noon, the Moderate members began to drop in one by one, and to take their places on the Moderator's right while the opposite benches remained well-nigh empty. What seemed most fitted to catch the eye of a stranger was the rosy appearance of the men, and their rounded contour of face and feature. Moderatism, in the present day, is evidently not injuring its

<sup>1</sup> 1689. By it Presbyterianism was re-established in Scotland.

complexion by the composition of "Histories of Scotland" like that of Robertson, or by prosecuting such "Inquiries into the Human Mind" as those instituted by Reid. We were reminded, in glancing over the benches, of a bed of full-blown peony roses glistening after a shower; and, could one have but substituted among them the monk's frock for the modern dress-coat, and given to each crown the shaven tonsure, not only would they have passed admirably for a conclave of monks met to determine some weighty point of abbey-income or right of forestry, but for a conclave of one determinate age—that easily circumstanced middle age in which, the days of virgil and maceration being over and the disturbing doctrines of the Reformation not yet aroused from out of their long sleep, the Churchman had little else to do than just amuse himself with concerns of the chase and the cellar, the larder and the dormitory. The benches on the left began slowly to fill, and on the entrance of every more distinguished member, a burst of recognition and welcome shook the gallery. Their antagonists had all been permitted to take their places in ominous silence. The music of the pageant was heard outside; the Moderator<sup>1</sup> entered, attired in his gown; and ere the appearance of the Lord High Commissioner, preceded by his pages and mace-bearer, and attended by the Lord Provost, the Lord Advocate, and the Solicitor-General, the Evangelical benches had filled as densely as those of their opponents, and the cross benches, appropriated, in perilous times like the present, to a middle party careful always to pitch their principles below the suffering point, were also fully occupied. Never before was there seen so crowded a General Assembly: the number of members had been increased beyond all precedent by the

<sup>1</sup> The Rev. Dr. Welsh, Professor of Church History in the University of Edinburgh.

double returns; and almost every member was in his place. The Moderator opened the proceedings by a deeply impressive prayer; but though the silence within was complete, a Babel of tumultuary sounds outside, and at the closed doors, expressive of the intense anxiety of the excluded multitude, had the effect of rendering him scarcely audible in the more distant parts of the building. There stood beside the chair, though on opposite sides, the meet representatives of the belligerent parties. On the right we marked Principal M'Farlan of Glasgow—the man, in these altered times, when missions are not held disreputable,<sup>1</sup> and even Moderates profess to believe that the Gospel may be communicated to savages without signally injuring their morals, who could recommend his students to organize themselves into political clubs, but dissuade them from forming missionary societies. On his left stood Thomas Chalmers, the man through whose indomitable energy and Christian zeal two hundred churches were added to the Establishment in little more than ten years. Science, like religion, had its representatives on the Moderator's right and left. On the one side we saw *Moderate* science personified in Dr. Anderson of Newburgh<sup>2</sup>—a dabbler in geology, who found a fish in the Old Red Sandstone, and described it as a beetle: we saw science not *Moderate*, on the other side, represented by Sir David Brewster.

The Moderator rose and addressed the House in a few impressive sentences. There had been an infringement, he said, on the constitution of the Church—an infringement so

<sup>1</sup> In 1796 the Church of Scotland, by a narrow vote, decided against the prosecution of mission work. The same feeling was present also among certain of the Seceders.

<sup>2</sup> Dr. Anderson, the parish minister, was from 1837 a contributor of many essays and papers on Fife geology. His descriptions of organisms were not always accurate, a defect, however, shared by a good many contemporary geologists, not excepting Miller himself.

great that they could not constitute its General Assembly without a violation of the union between Church and State, as now authoritatively defined and declared. He was therefore compelled, he added, to protest against proceeding further; and unfolding a document which he held in his hand, he read, in a slow and emphatic manner, the protest of the Church. For the first few seconds, the extreme anxiety to hear defeated its object—the universal “hush, hush,” occasioned considerably more noise than it allayed; but the momentary confusion was succeeded by the most unbroken silence; and the reader went on till the impressive close of the document, when he flung it down on the table of the House, and solemnly departed. He was followed, at a pace’s distance, by Dr. Chalmers; Dr. Gordon and Dr. Patrick M’Farlan immediately succeeded; and then the numerous sitters on the thickly occupied benches behind filed after them, in a long unbroken line, which for several minutes together continued to thread the passage to the eastern door, till at length only a blank space remained. As the well-known faces and forms of some of the ablest and most eminent men that ever adorned the Church of Scotland glided along in the current, to disappear from the courts of the State institution for ever, there rose a cheer from the galleries, and an impatient cry of “Out, out,” from the ministers and elders not members of Assembly, now engaged in sallying forth, to join with them, from the railed area behind. The cheers subsided, choked in not a few instances in tears. The occasion was by far too solemn for the commoner manifestations of either censure or approval; it excited feelings that lay too deep for expression. There was a marked peculiarity in the appearance of their opponents—a blank, restless, pivot-like turning of head from the fast emptying benches to one another’s faces; but they uttered



no word—not even in whispers. At length, when the last of the withdrawing party had disappeared, there ran from bench to bench a hurried, broken whispering—“How many?”—“how many?”—“A hundred and fifty?” “No;” “Yes;” “Four hundred?” “No”—and then for a moment all was still again. The scene that followed we deemed one of the most striking of the day. The empty vacated benches stretched away from the Moderator’s seat in the centre of the building, to the distant wall. There suddenly glided into the front rows a small party of men whom no one knew—obscure, mediocre, blighted-looking men, that, contrasted with the well-known forms of our Chalmerses and Gordons, Candlishes and Cunninghams, M’Farlans, Brewsters, and Dunlops, reminded one of the thin and blasted corn-ears of Pharaoh’s vision, and, like them too, seemed typical of a time of famine and destitution. Who are these? was the general query; but no one seemed to know. At length the significant whisper ran along the house, “The Forty.”<sup>1</sup> There was a grin of mingled contempt and compassion visible on many a broad Moderate face, and a too audible titter shook the gallery. There seemed a degree of incongruity in the sight, that partook highly of the ludicrous. For our own part, we were so carried away by a vagrant association, and so missed Ali Baba, the oil kettle, and the forty jars, as to forget for a time that at the doors of these unfortunate men lies the ruin of the Scottish Establishment. The aspect of the Assembly sank, when it had in some degree recovered itself, into that expression of tame and flat commonplace which it must be henceforth content to bear, until roused, happily, into short-lived activity by the sharp paroxysms of approaching destruction.

<sup>1</sup> Members of the Evangelical party in the Synod of Glasgow who, to that number, had broken off a year before.



A spectacle equally impressive with that exhibited by the ministers and elders of the Free Church, as they wended in long procession to their place of meeting, there to constitute their independent Assembly, Edinburgh has certainly not witnessed since those times of the Covenant when Johnstone of Warriston unrolled the solemn parchment in the churchyard of the Greyfriars,<sup>1</sup> and the assembled thousands, from the peer to the peasant, adhibited their names. The procession, with Dr. Chalmers and the Moderator, in his robes and cap of office, at its head, extended, three in depth, for a full quarter of a mile. The Lord Provost of the city rode on before. Rather more than four hundred were ministers of the Church; all the others were elders.—(From *The Witness*, May 20th, 1843, in “*The Headship of Christ.*”)

<sup>1</sup> 1638.

---

## XIX

### THE WRECK OF THE *BETSEY*

[Of the population of the little island of Eigg all except three adhered to the Free Church. The proprietor of the island, a professor in Aberdeen, refused a site for the use of the new denomination, on the ground that he did not wish to promote religious dissension. As a result, the dissenting clergyman, Mr. Swanson, an old schoolmate of Miller, had to take up his abode with his family on the island of Ornsay, while he visited and preached to his people in a cranky craft, thirty feet by eleven, called the *Betsey*. In these circumstances Miller made his *Cruise of the Betsey* (July, 1844) as *A Summer Holiday in the Hebrides*, first so published in *The Witness*, and after his death as part of a volume under the former title.]

THE tide began to flow, and we had to quit our explorations, and return to the *Betsey*. The little wind had become less, and all the canvas we could hang out enabled us to draw but a sluggish furrow. The stern of the *Betsey* "wrought no buttons" on this occasion; but she got a good tide under her keel, and ere the dinner-hour we had passed through the narrows of Kyle Akin. The village of this name was designed by the late Lord M'Donald for a great sea-port town, but it refused to grow; and it has since become a gentleman in a small way, and does nothing. It forms, however, a handsome group of houses, pleasantly situated on a flat green tongue of land, on the Skye side, just within the opening of the Kyle; and there rises on an eminence beyond it a fine old tower, rent open, as if by an earthquake, from top to bottom, which forms one of the most picturesque objects I have almost ever seen in a landscape. There are bold hills all around, and rocky islands, with the ceaseless rush of tides in front; while the cloven tower, rising high over the shore, is seen, in threading the Kyles, whether from the south or north, relieved dark against the sky, as the central object of the vista. We find it thus described by the Messrs. Anderson of Inverness, in their excellent *Guide Book*—by far the best companion of the kind with which the traveller who sets himself to explore our Scottish Highlands can be provided. "Close to the village of Kyle Akin are the ruins of an old square keep, called Castle Muel or Maoil, the walls of which are of a remarkable thickness. It is said to have been built by the daughter of a Norwegian king, married to a Mackinnon or Macdonald, for the purpose of levying an impost on all vessels passing the Kyles, excepting, says the tradition, those of her own country. For the more certain exaction of this duty, she is reported to have caused a strong chain to be stretched across from shore to shore; and the spot in the

rocks to which the terminal links were attached is still pointed out." It was high time for us to be home. The dinner-hour came; but, in meet illustration of the profound remark of Trotty-Vreck, not the dinner. We had been in a cold Moderate district, whence there came no half-dozens of eggs, or whole dozens of trout, or pailfuls of razor-fish, and in which hard cabin biscuit cost us sixpence per pound. And now our stores were exhausted, and we had to dine as we best could, on our last half-ounce of tea, sweetened by our last quarter of a pound of sugar. I had marked, however, a dried thornback hanging among the rigging. It had been there nearly three weeks before, when I came first aboard, and no one seemed to know for how many weeks previous; for, as it had come to be a sort of fixture in the vessel, it could be looked at without being seen. But necessity sharpens the discerning faculty, and on this pressing occasion I was fortunate enough to see it. It was straightway taken down, skinned, roasted, and eaten; and, though rich in ammonia—a substance better suited to form the food of the organisms that do not unite sensation to vitality, than organisms so high in the scale as the minister and his friend—we came deliberately to the opinion, that, on the whole, we could scarce have dined so well on one of Major Belenden's jack-boots—"so thick in the soles," according to Jenny Dennison, "forby being tough in the upper leather."<sup>1</sup> The tide failed us opposite the opening of Loch Alsh; the wind, long dying, at length died out into a dead calm; and we cast anchor in ten fathoms of water, to wait the ebbing current that was to carry us through Kyle Rhea.

The ebb-tide set in about half an hour after sunset; and in weighing anchor to float down the Kyle—for we still

<sup>1</sup> *Old Mortality*, chap. xxviii.

lacked wind to sail down it—we brought up from below, on one of the anchor-flukes, an immense bunch of deep-sea tangle, with huge soft fronds and long slender stems, that had lain flat on the rocky bottom, and had here and there thrown out roots along its length of stalk, to attach itself to the rock, in the way the ivy attaches itself to the wall. Among the intricacies of the true roots of the bunch, if one may speak of the true roots of an alga, I reckoned up from eighteen to twenty different forms of animal life—*Flustræ*,<sup>1</sup> *Sertulariæ*,<sup>2</sup> *Serpulæ*,<sup>3</sup> *Anomiæ*,<sup>4</sup> *Modiolæ*,<sup>5</sup> *Astarte*,<sup>6</sup> *Annelida*,<sup>7</sup> *Crustacea*,<sup>8</sup> and *Radiata*.<sup>9</sup> Among the Crustaceans I found a female crab of a reddish-brown colour, considerably smaller than the nail of my small finger, but fully grown apparently, for the abdominal flap was loaded with spawn; and among the Echinoderms,<sup>10</sup> a brownish-yellow sea-urchin about the size of a pistol-bullet, furnished with comparatively large but thinly-set spines. There is a dangerous rock in the Kyle Rhea, the Caileach<sup>11</sup> stone, on which the Commissioners for the Northern Lighthouses have stuck a bit of board, about the size of a pot-lid, which, as it is known to be there, and as no one ever sees it after sunset, is really very effective, con-

<sup>1</sup> *Flustræ*. The sea-mat, a flat, seaweed-like growth bearing a colony of small organisms composed of jelly, sometimes spoken of as a Zoophyte, or "animal-plant." Now classed as *Coelenterata* ("hollow-bodied.")

<sup>2</sup> *Sertulariæ*. A genus of "Zoophytes," whose branching stem resembles the backbone of a fish; common on our coasts.

<sup>3</sup> *Serpulæ*. Tube-dwelling worms fixed on stones or shells.

<sup>4</sup> *Anomiæ*. The small saddle oyster: not edible.

<sup>5</sup> *Modiolæ*. The large "horse" mussels.

<sup>6</sup> *Astarte*. A genus of bivalves like the cockle.

<sup>7</sup> *Annelida*. Sea-worms.

<sup>8</sup> *Crustacea*. Crab-like creatures.

<sup>9</sup> *Radiata*. An old name for the group which included the "Zoophytes": e.g., the sea-anemone.

<sup>10</sup> Sea-urchins.

<sup>11</sup> Gaelic, "old-woman."

sidering how little it must have cost the country, in wrecking vessels. I saw one of its victims, the sloop of an honest Methodist, in whose bottom the Caileach had knocked out a hole, repairing at Isle Ornsay; and I was told, that if I wished to see more, I had only just to wait a little. The honest Methodist, after looking out in vain for the bit of board, was just stepping into the shrouds, to try whether he could not see the rock on which the bit of board is placed, when all at once his vessel found out both board and rock for herself. We also had anxious looking out this evening for the bit of board: one of us thought he saw it right ahead; and when some of the others were trying to see it too, John Stewart succeeded in discovering it half a pistol-shot astern. The evening was one of the loveliest. The moon rose in cloudy majesty over the mountains of Glenelg, brightening as it rose, till the boiling eddies around us curled on the darker surface in pale circlets of light, and the shadow of the *Betsey* lay as sharply defined on the brown patch of calm to the larboard as if it were her portrait taken in black. Immediately at the water-edge, under a tall dark hill, there were two smouldering fires, that now shot up a sudden tongue of bright flame, and now dimmed into blood-red specks, and sent thick strongly-scented trails of smoke athwart the surface of the Kyle. We could hear in the calm, voices from beside them, apparently those of children; and learned that they indicated the places of two kelp-furnaces—things which have now become comparatively rare along the coasts of the Hebrides. There was the low rush of tides all around, and the distant voices from the shore, but no other sound; and, dim in the moonshine, we could see behind us several spectral-looking sails threading their silent way through the narrows, like twilight ghosts traversing some haunted corridor.

It was late ere we reached the opening of Isle Ornsay;



and as it was still a dead calm, we had to tug in the *Betsey* to the anchoring ground with a pair of long sweeps. The minister pointed to a low-lying rock on the left-hand side of the opening—a favourite haunt of the seal. “I took farewell of the *Betsey* there last winter,” he said. “The night had worn late, and was pitch dark; we could see before us scarce the length of our bowsprit; not a single light twinkled from the shore; and, in taking the bay, we ran bump on the skerry, and stuck fast. The water came rushing in, and covered over the cabin-floor. I had Mrs. Swanson and my little daughter aboard with me, with one of our servant-maids who had become attached to the family, and insisted on following us from Eigg; and, of course, our first care was to get them ashore. We had to land them on the bare uninhabited island yonder, and a dreary enough place it was at midnight, in winter, with its rocks, bogs, and heath, and with a rude sea tumbling over the skerries in front; but it had at least the recommendation of being safe, and the sky, though black and wild, was not stormy. I had brought two lanthorns ashore; the servant girl, with the child in her lap, sat beside one of them, in the shelter of a rock; while my wife, with the other, went walking up and down along a piece of level sward yonder, waving the light, to attract notice from the opposite side of the bay. But though it was seen from the windows of my own house by an attached relative, it was deemed merely a singularly distinct apparition of Will o’ the Wisp, and so brought us no assistance. Meanwhile we had carried out a kedge astern of the *Betsey*, as the sea was flowing at the time, to keep her from beating in over the rocks; and then, taking our few movables ashore, we hung on till the tide rose, and, with our boat alongside ready for escape, succeeded in warping her into deep water, with the intention of letting her sink somewhere beyond the influence



of the surf, which, without fail, would have broken her up on the skerry in a few hours, had we suffered her to remain there. But though, when on the rock, the tide had risen as freely over the cabin sole inside as over the crags without, in the deep water the *Betsey* gave no sign of sinking. I went down to the cabin; the water was knee-high on the floor, dashing against bed and locker, but it rose no higher—the enormous leak had stopped, we knew not how; and, setting ourselves to the pump, we had in an hour or two a clear ship. The *Betsey* is clinker-built below. The elastic oak planks had yielded inwards to the pressure of the rock, tearing out the fastenings, and admitted the tide at wide yawning seams; but no sooner was the pressure removed, than out they sprung again into their places, like bows when the strings are slackened; and when the carpenter came to overhaul, he found he had little else to do than to remove a split plank, and to supply a few dozens of drawn nails.”—(*The Cruise of the Betsey.*)

---

## XX

## THE BONE-CAVE OF EIGG

LEAVING our boat to return to the *Betsey* at John Stewart's leisure, and taking with us his companion to assist us in carrying such specimens as we might procure, we passed westwards for a few hundred yards under the crags, and came abreast of a dark angular opening at the base of the precipice, scarce two feet in height, and in front of which there lies a little sluggish, ankle-deep pool, half-mud, half-water, and matted over with grass and rushes. Along the

mural face of the rock of earthy amygdaloid<sup>1</sup> there runs a nearly vertical line, which in one of the stratified rocks one might perhaps term the line of a fault,<sup>2</sup> but which in a trap-rock may merely indicate where two semi-molten masses had pressed against each other without uniting—just as currents of cooling lead poured by the plumber from the opposite ends of a groove, sometimes meet and press together, so as to make a close, polished joint, without running into one piece. The little angular opening forms the lower termination of the line, which, hollowing inwards, recedes near the bottom into a shallow cave, roughened with tufts of fern and bunches of long silky grass, here and there enlivened by the delicate flowers of the lesser rock-geranium. A shower of drops patters from above among the weeds and rushes of the little pool. My friend the minister stopped short. “There,” he said, pointing to the hollow, “you will find such a bone-cave as you never saw before. Within that opening there lies the remains of an entire race, palpably destroyed, as geologists in so many other cases are content merely to imagine, by one great catastrophe. That is the famous cave of Frances (*Uamh Fhraing*), in which the whole people of Eigg were smoked to death by the M’Leods.”

We struck a light, and, worming ourselves through the narrow entrance, gained the interior—a true rock gallery, vastly more roomy and lofty than one could have anticipated from the mean vestibule placed in front of it. Its extreme length we found to be two hundred and sixty feet; its extreme breadth twenty-seven feet; its height, where the roof rises highest, from eighteen to twenty feet. The cave

<sup>1</sup> “Almond-like” igneous rock, having the steam vesicules filled with some mineral.

<sup>2</sup> Line of subsidence or uplift where the rocks cease to correspond.

seems to have owed its origin to two distinct causes. The trap-rocks on each side of the vertical fault-like crevice which separates them are greatly decomposed, as if by the moisture percolating from above; and directly in the line of the crevice must the surf have charged, wave after wave, for ages ere the last upheaval of the land. When the dog-stone at Dunolly existed as a sea-stack, skirted with algæ, the breakers on this shore must have dashed every tide through the narrow opening of the cavern, and scooped out by handfuls the decomposing trap within. The process of decomposition, and consequent enlargement, is still going on inside, but there is no longer an agent to sweep away the disintegrated fragments. Where the roof rises highest, the floor is blocked up with accumulations of bulky decaying masses, that have dropped from above; and it is covered over its entire area by a stratum of earthy rubbish, which has fallen from the sides and ceiling in such abundance, that it covers up the straw beds of the perished islanders, which still exist beneath as a brown mouldering felt, to the depth of from five to eight inches. Never yet was tragedy enacted on a gloomier theatre. An uncertain twilight glimmers gray at the entrance, from the narrow vestibule; but all within, for full two hundred feet, is black as with Egyptian darkness. As we passed onward with our one feeble light, along the dark mouldering walls and roof which absorbed every straggling ray that reached them, and over the dingy floor, roppy and damp, the place called to recollection that hall in Roman story, hung and carpeted with black, into which Domitian once thrust his senate in a frolic, to read their own names on the coffin-lids placed against the wall. The darkness seemed to press upon us from every side, as if it were a dense jetty fluid, out of which our light had scooped a pailful or two, and that was rushing in to supply the vacuum; and the only objects

we saw distinctly visible were each other's heads and faces, and the lighter parts of our dress.

The floor, for about a hundred feet inwards from the narrow vestibule, resembles that of a charnel-house. At almost every step we came upon heaps of human bones grouped together, as the Psalmist so graphically describes, "as when one cutteth and cleaveth wood upon the earth." They are of a brownish, earthy hue, here and there tinged with green; the skulls, with the exception of a few broken fragments, have disappeared; for travellers in the Hebrides have of late years been numerous and curious; and many a museum—that at Abbotsford among the rest—exhibits, in a grinning skull, its memorial of the Massacre at Eigg. We find, too, further marks of visitors in the single bones separated from the heaps and scattered over the area; but enough still remains to show, in the general disposition of the remains, that the hapless islanders died under the walls in families, each little group separated by a few feet from the others. Here and there the remains of a detached skeleton may be seen, as if some robust islander, restless in his agony, had stalked out into the middle space ere he fell; but the social arrangement is the general one. And beneath every heap we find, at the depth, as has been said, of a few inches, the remains of the straw-bed upon which the family had lain, largely mixed with the smaller bones of the human frame, ribs and vertebræ, and hand and feet bones; occasionally, too, with fragments of unglazed pottery, and various other implements of a rude housewifery. The minister found for me, under one family heap, the pieces of a half-burned, unglazed earthen jar, with a narrow mouth, that, like the sepulchral urns of our ancient tumuli, had been moulded by the hand without the assistance of the potter's wheel; and to one of the fragments there stuck a minute pellet of gray

hair. From under another heap he disinterred the handle-stave of a child's wooden porringer (*bicker*), perforated by a hole still bearing the mark of the cord that had hung it to the wall; and beside the stave lay a few of the larger, less destructible bones of the child, with what for a time puzzled us both not a little—one of the grinders of a horse. Certain it was, no horse could have got there to have dropped a tooth—a foal of a week old could not have pressed itself through the opening; and how the single grinder, evidently no recent introduction into the cave, could have got mixed up in the straw with the human bones, seemed an enigma somewhat of the class to which the reel in the bottle belongs. I found in Edinburgh an unexpected commentator on the mystery, in the person of my little boy—an experimental philosopher in his second year. I had spread out on the floor the curiosities of Eigg—among the rest, the relics of the cave, including the pieces of earthen jar, and the fragment of the porringer; but the horse's tooth seemed to be the only real curiosity among them in the eyes of little Bill. He laid instant hold of it; and, appropriating it as a toy, continued playing with it till he fell asleep. I have now little doubt that it was first brought into the cave by the poor child amid whose mouldering remains Mr. Swanson found it. The little pellet of gray hair spoke of feeble old age involved in this wholesale massacre with the vigorous manhood of the island; and here was a story of unsuspecting infancy amusing itself on the eve of destruction with its toys. Alas for man! "Should not I spare Nineveh, that great city," said God to the angry prophet, "wherein are more than six thousand score persons that cannot discern between their right hand and their left?" God's image must have been sadly defaced in the murderers of the poor inoffensive children of Eigg, ere they could have heard their feeble wailings,

raised, no doubt, when the stifling atmosphere within began first to thicken, and yet ruthlessly persist in their work of indiscriminate destruction.

Various curious things have from time to time been picked up from under the bones. An islander found among them, shortly before our visit, a sewing needle of copper, little more than an inch in length; fragments of Eigg shoes, of the kind still made in the island, are of comparatively common occurrence; and Mr. James Wilson relates, in the singularly graphic and powerful description of *Uamh Fraingh* which occurs in his *Voyage Round the Coasts of Scotland* (1841), that a sailor, when he was there, disinterred, by turning up a flat stone, a "buck-tooth" and a piece of money—the latter a rusty copper coin, apparently of the times of Mary of Scotland. I also found a few teeth: they were sticking fast in a fragment of jaw; and, taking it for granted, as I suppose I may, that the dentology of the murderous M'Leods outside the cave must have very much resembled that of the murdered M'Donalds within, very harmless-looking teeth they were for being those of an animal so maliciously mischievous as man. I have found<sup>1</sup> in the Old Red Sandstone the strong-based tusks of the semi-reptile *Holoptychius*; I have chiselled out of the limestone of the Coal Measures the sharp, dagger-like incisors of the *Megalichthys*; I have picked up in the Lias and Oolite the cruel spikes of the crocodile and the *Ichthyosaurus*; I have seen the trenchant, saw-edged teeth of gigantic *Cestracions* and *Squalidæ*<sup>2</sup> that had been disinterred from the Chalk and the London Clay; and I have felt, as I examined them, that there could be no possibility of mistake regarding the nature of the creatures to which they had belonged;—they were teeth made for

<sup>1</sup> For explanations see under special sections.

<sup>2</sup> A genus of toothed whales, extinct.



hacking, tearing, mangling—for amputating limbs at a bite, and laying open bulky bodies with a crunch: but I could find no such evidence in the human jaw, with its three inoffensive-looking grinders, that the animal it had belonged to—far more ruthless and cruel than reptile-fish, crocodiles, or sharks—was of such a nature that it could destroy creatures of even its own kind by hundreds at a time, when not in the least incited by hunger, and with no ultimate intention of eating them. Man must surely have become an immensely worse animal than his teeth show him to have been designed for: his teeth give no evidence regarding his real character. Who, for instance, could gather from the dentology of the M'Leods the passage in their history to which the cave of Francis bears evidence?

We quitted the cave, with its stagnant damp atmosphere and its mouldy unwholesome smells, to breathe the fresh sea-air on the beach without. Its story, as recorded by Sir Walter in his *Tales of a Grandfather*, and by Mr. Wilson in his *Voyage*, must be familiar to the reader; and I learned from my friend, versant in all the various island traditions regarding it, that the less I inquired into its history on the spot, the more was I likely to feel satisfied that I knew something about it. There seem to have been no chroniclers in this part of the Hebrides in the rude age of the unglazed pipkin and the copper needle; and many years seem to have elapsed ere the story of their hapless possessors was committed to writing; and so we find it existing in various and somewhat conflicting editions. “Some hundred years ago,”<sup>1</sup> says Mr. Wilson, “a few of the M'Leods landed in Eigg from Skye, where, having greatly misconducted themselves, the Eiggites strapped them to their own boats, which they sent

<sup>1</sup> This is the correct version as appears from a contemporary MS. given by Skene in *Celtic Scotland*, vol. iii., p. 433. The date is March, 1577.

adrift into the ocean. They were, however, rescued by some clansmen; and soon after, a strong body of the M'Leods set sail from Skye, to revenge themselves on Eigg. The natives of the latter island feeling they were not of sufficient force to offer resistance, went and hid themselves (men, women, and children) in this secret cave, which is narrow, but of great subterranean length, with an exceedingly small entrance. It opens from the broken face of a steep bank along the shore; and, as the whole coast is cavernous, their particular retreat would have been sought for in vain by strangers. So the Skye-men finding the island uninhabited, presumed the natives had fled, and satisfied their revengeful feelings by ransacking and pillaging the empty houses. Probably the *moveables* were of no great value. They then took their departure and left the island, when the sight of a solitary human being among the cliffs awakened their suspicion, and induced them to return. Unfortunately a slight sprinkling of snow had fallen, and the footsteps of an individual were traced to the mouth of the cave. Not having been there ourselves at the period alluded to, we cannot speak with certainty as to the nature of the parley which ensued, or the terms offered by either party; but we know that those were not the days of protocols. The ultimatum was unsatisfactory to the Skye-men, who immediately proceeded to 'adjust the preliminaries' in their own way, which adjustment consisted in carrying a vast collection of heather, ferns, and other combustibles, and making a huge fire just in the very entrance of the *Uamh Fhraing*, which they kept up for a length of time; and thus, by 'one fell smoke,' they smothered the entire population of the island."

Such is Mr. Wilson's version of the story, which, in all its leading circumstances, agrees with that of Sir Walter. According, however, to at least one of the Eigg versions, it

was the M'Leod himself who had landed on the island, driven there by a storm. The islanders, at feud with the M'Leods at the time, inhospitably rose upon him, as he bivouacked on the shores of the Bay of Laig; and in a fray, in which his party had the worse, his back was broken, and he was forced off half-dead to sea. Several months after, on his partial recovery, he returned, crook-backed and infirm, to wreak his vengeance on the inhabitants, all of whom, warned of his coming by the array of his galleys in the offing, hid themselves in the cave, in which, however, they were ultimately betrayed—as narrated by Sir Walter and Mr. Wilson—by the track of some footpaths in a sprinkling of snow; and the implacable chieftain, giving orders, on the discovery, to unroof the houses in the neighbourhood, raised high a pile of rafters against the opening, and set it on fire. And there he stood in front of the blaze, hump-backed and grim, till the wild hollow cry from the rock within had sunk into silence, and there lived not a single islander of Eigg, man, woman, or child. The fact that their remains should have been left to moulder in the cave is proof enough of itself that none survived to bury the dead. I am inclined to believe, from the appearance of the place, that smoke could scarcely have been the real agent of destruction: then, as now, it would have taken a great deal of pure smoke to smother a Highlander. It may be perhaps deemed more probable, that the huge fire of rafter and roof-tree piled close against the opening, and rising high over it, would draw out the oxygen within as its proper food, till at length all would be exhausted; and life would go out for want of it, like the flame of a candle under an upturned jar. Sir Walter refers the date of the event to some time “about the close of the sixteenth century;” and the coin of Queen Mary, mentioned by Mr. Wilson, points at a period at least not much earlier: but the exact

time of its occurrence is so uncertain, that a Roman Catholic priest of the Hebrides, in lately showing his people what a very bad thing Protestantism is, instanced, as a specimen of its average morality, the affair of the cave. The *Protestant* M'Leods of Skye, he said, full of hatred in their hearts, had murdered wholesale their wretched brethren the *Protestant* M'Donalds of Eigg, and sent them off to perdition before their time.—(*The Cruise of the "Betsey."*)

---

## XXI

THE FUNERAL OF CHALMERS<sup>1</sup>

DUST to dust;—the grave now holds all that was mortal of Thomas Chalmers. Never before did we witness such a funeral; nay, never before, in at least the memory of man, did *Scotland* witness such a funeral. Greatness of the mere extrinsic type can always command a showy pageant, but mere extrinsic greatness never yet succeeded in purchasing the tears of a people; and the spectacle of yesterday—in which the trappings of grief, worn not as idle signs, but as the representatives of a real sorrow, were borne by well-nigh half the population of the metropolis, and blackened the public ways for furlong after furlong, and mile after mile—was such as Scotland has rarely witnessed, and which mere rank and wealth, when at the highest or the fullest, were never yet able to buy. It was a solemn tribute spontaneously paid to departed goodness and greatness by the public mind.

<sup>1</sup> Dr. Chalmers (see note on p. 154) died at Edinburgh on 30th May, 1847.

Dr. Chalmers had, we understand, expressed a wish to be buried in the lately opened cemetery at Grange, situated on the pleasant rising ground—once, we believe, a portion of the old Boroughmoor—about a quarter of a mile south of the Meadows, and little more than half a mile from the Doctor's favourite residence at Morningside. It is a singularly beautiful spot, surrounded on all sides by green fields, and on the south and west by lines of well-grown forest trees, that must have seen at least their century. And, sweeping downwards on every side—towards the Grange House and Morningside on the south and west, and towards Newington and the Meadows on the east and north—it commands within its range of prospect every more striking feature of the scenery for which Edinburgh and its neighbourhood are so remarkable. The purple Pentlands, piled up, as seen from this point of view, over the nearer Braid Hills and the Hill of Blackford, look down upon it on the one hand; the colossal Arthur Seat, just in the point of view where the lion-like contour of the eminence is most complete, seems sentinelling it on the other; the flatter lines of the landscape, roughened with wood, and dotted over with buildings reduced in the distance to mere speck-like points, present here and there, in comparatively prominent relief, their bolder objects—here Liberton, with its church and tower—there the rising ground of Craigmillar, with its ancient ruin—yonder, amid the tall trees, the Gothic chapel of St. Catherine; while along the long-descending ridge, bearing its picturesque bravery of spires and monuments, and guarded by its veteran Castle at the one termination, and the tall escarpment of Salisbury Crags on the other, stands the proud city, with its smoke-wreath resting over it. We had at one time half-wished that Chalmers should have been buried in the Greyfriars—with the Hendersons and M'Cries of our ecclesiastical, and



the Robertsons and Mackenzies of our literary, history—where the Church made its greatest and most imposing stand against the Erastian encroachments of the secular arm, and where the dust of so many of the martyrs lies. But we recognise as more appropriate the choice which selected the virgin soil of this new locality, whose main associations are with the sublime of nature—with the unnarrowed expanse of the heavens above, and the plains and hills, the woods and fields, that give variety to the wide tract of earth below. Chalmers, like all the truly great, may be said rather to have created than to have belonged to an era. Influenced by the past, like all men, he was yet less influenced by it in its immediate connection with his own Church and country, than any of our other great ecclesiastical leaders since the days of Knox. He could feel the poetry of the times of the Covenant, and sympathise with the Christian men who died in behalf of the rights and liberties of their Church—rights and liberties identical, in those ages, with the cause of religion itself; but in looking for his patterns and examples, he did what was done by all our first Reformers—passed over those uninspired times, on which we are perhaps too apt to linger, impressed rather by the scarce wholesome admiration of what our fathers did for God, than for what God did for them; and rested his whole mind on that more wonderful time when the adorable Redeemer walked our earth in the flesh, and fallible men, inspired by the Spirit, gave infallible testimony regarding Him.

The day was one of those gloomy days not unfrequent in early summer, which steep the landscape in a sombre, neutral tint of grey—a sort of diluted gloom; and volumes of mist, unvariegated, blank, and diffuse of outline, flew low athwart the hills, or lay folded on the distant horizon. A chill breeze from the east murmured drearily through the trees



that line the cemetery on the south and west, and rustled amid the low ornamental shrubs that vary and adorn its surface. We felt as if the garish sunshine would have associated ill with the occasion. A continuous range of burial vaults, elevated some twenty feet over the level, with a screen of Gothic architecture in front, fenced by a parapet, and laid out into a broad roadway atop, runs all along the cemetery from side to side, and was covered at an early hour by many thousand spectators, mostly well-dressed females. All the neighbouring roads, with the various streets through which the procession passed, from Morningside on to Lauriston, and from Lauriston to the burying-ground—a distance, by this circuitous route, of considerably more than two miles—were lined thick with people. We are confident we rather under-estimate than exaggerate their numbers when we state that the spectators of the funeral must have rather exceeded than fallen short of a hundred thousand persons. As the procession approached, the shops on both sides, with scarce any exceptions, were shut up, and business suspended. There was no part of the street or road through which it passed sufficiently open, or nearly so, to give a view of the whole. The spectator merely saw file after file pass by in what seemed endless succession. In the cemetery, which is of great extent, the whole was at once seen for the first time, and the appearance was that of an army. The figures dwindled in the distance, in receding towards the open grave along the long winding walk, as in those magnificent pictures of Martin in which even the littleness of men is made to enhance the greatness of their works and the array of their aggregated numbers. And still the open gateway continued to give ingress to the dingy, living tide, that seemed to flow unceasingly inwards, like some perennial stream that disembogues its waters into a lake. The party-coloured thousands

on the eminence above, all in silence, and many of them in tears—the far-stretching lines of the mourners below—the effect, amid the general black, of the scarlet cloaks of the magistracy (for the magistrates of Edinburgh, with much good taste and feeling, had come in their robes of office, and attended by their officials and insignia, to manifest their spontaneous respect for the memory of the greatest of their countrymen)—the slow, measured tramp, that, with the rustle of the breeze, formed the only sounds audible in so vast an assemblage—all conspired to compose a scene solemn and impressive in the highest degree, and of which the recollection will long survive in the memory of the spectators. There was a moral sublimity in the spectacle. It spoke, more emphatically than by words, of the dignity of intrinsic excellence, and of the height to which a true man may attain. It was the dust of a Presbyterian minister which the coffin contained; and yet they were burying him amid the tears of a nation, and with more than kingly honours.—(*Edinburgh and Its Neighbourhood.*)

---

## XXII

## THE LEASOWES

[A two months' holiday over the Border, in the autumn of 1845, gave Miller material for his volume—still delightful in spite of some jarring notes—*First Impressions of England and Its People*. In the main it is woven out of three strands—geology, theology, and literary associations. Of the last the least hackneyed is the small estate of William Shenstone (1714-63), "The Leasowes," in the parish of Hales-Owen in Worcestershire, which the poet cut and carved at, and planted and

ornamented and diversified until he had surrounded himself with a classic Arcadia, as understood by such poets as himself; ruining himself in the effort, and forced to live in an ordinary, tumble-down house. The place certainly had beauties of a kind, and was made the subject of description by Goldsmith, by Dodsley the writer and publisher, and by Dr. Carlyle of Inveresk ("Jupiter"). Of Shenstone as a poet, Miller was early and always an admirer. His quaint mingling of homeliness and artificiality, and his easy, melodious sentimentality charmed Miller, who displays these qualities, in a measure, himself. One of the *Poems of a Journeyman Mason* is an exercise on the "subject" of Ecclesiastes, "in the stanza of the pastoral ballads of Shenstone," entitled "Life, a Lyric Poem." This characterization is sufficient for critical purposes. Burns also was a keen admirer of Shenstone.]

I got ready permission at the house of the Leasowes—a modern building erected on the site of that in which Shenstone resided—to walk over the grounds; and striking upwards directly along the centre of the angular tongue of land which divides the two forks of the valley, I gained the top of the hill, purposing to descend to where the gorge opens below along the one fork, and to re-ascend along the other. On the hill-top, a single field's breadth beyond the precincts of the Leasowes, I met a tall middle-aged female, whose complexion, much embrowned by the sun, betrayed the frequent worker in fields, and her stiff angularity of figure, the state of single blessedness, and "maiden meditation, fancy free," which Shakespeare complimented in Elizabeth. I greeted her with fair good day, and asked her whether the very fair grounds below were not the Leasowes? or, as I now learned to pronounce the word, *Lisos*—for when I gave it its long Scotch sound, no one in the neighbourhood seemed to know what place I meant. "Ah, yes," said she, "the *Lisos*!—they were much thought of long ago, in Squire Shenstone's

days; but they are all ruined now; and, except on Sundays, when the nailer lads get into them, when they can, few people come their way. Squire Shenstone was a poet," she added, "and died for love." This was not quite the case: the Squire, who might have married his Phillis had he not been afraid to incur the expense of a wife, died of a putrid fever at the sober age of forty-nine; but there would have been little wit in substituting a worse for a better story, and so I received without challenge the information of the spinster. In descending, I took the right-hand branch of the valley, which is considerably more extended than that to the left. A low cliff, composed of the yellow gritty sandstone of the Lower Coal Measures, and much overhung by stunted alder and hazel bushes, stands near the head of the ravine, just where the Leasowes begin; and directly out of the middle of the cliff, some three or four feet from its base, there comes leaping to the light, as out of the smitten rock in the wilderness, a clear and copious spring—one of the "health-bestowing" fountains,

"All bordered with moss,  
Where the harebells and violets grew."

Alas! moss and harebells and violets were gone, with the path which had once led to the spot, and the seat which had once fronted it; the waters fell dead and dull into a quagmire, like young human life leaping out of unconscious darkness into misery, and then stole away through a boggy strip of rank grass and rushes, along a line of scraggy alders. All was changed, save the full-volumed spring, and it—

"A thousand and a thousand years,  
'Twill flow as now it flows."

The water creeps downwards from where it leaps from the rock to form a chain of artificial lakes, with which the bottom

of the dell is occupied, and which are threaded by the water-course, like a necklace of birds' eggs strung upon a cord. Ere I struck down on the upper lake, however, I had to make a detour of a few hundred yards to the right, to see what Dodsley describes as one of the finest scenes furnished by the Leasowes—a steep terrace, commanding a noble prospect—a hanging wood—an undulating pathway over uneven ground, that rises and falls like a snake in motion—a monumental tablet—three rustic seats—and a temple dedicated to Pan. The happy corner which the poet had thus stuck over with so much bravery is naturally a very pretty one. The hill-side, so gentle in most of its slopes, descends for about eighty feet—nearly at right angles with the forked valley, and nearly parallel to the great valley in front—as if it were a giant wave on the eve of breaking; and it is on this rampart-like declivity—this giant wave—that the hanging wood was planted, the undulating path formed, and the seats and temple erected. But all save the wood has either wholly vanished, or left behind but the faintest traces—traces so faint that, save for the plan of the grounds appended to the second edition of Dodsley's<sup>1</sup> description, they would have told me no distinct story.

Ere descending the rampart-like acclivity, but just as the ground begins gradually to rise, and when I should be passing, according to Dodsley, through the “*Lover's Walk*,” a sequestered arboraceous lane, saddened by the urn of “*poor Miss Dolman*”—“*by the side of which*” there had flowed “*a small bubbling rill, forming little peninsulas, rolling over pebbles, or falling down small cascades, all under cover, and taught to murmur very agreeably*”—I found myself in a wild tangled jungle, with no path under foot, with the “*bubbling rill*”

<sup>1</sup> Robert Dodsley (1703-64), publisher for many famous authors of the time, and himself an author and literary collector.

converted into a black lazy swamp, with thickets of bramble all around, through which I had to press my way, as I best could, breast-high—"poor Miss Dolman's" urn as fairly departed and invisible as "poor Miss Dolman;" in short, everything that had been done undone, and all in readiness for some second Shenstone to begin *de novo*. As the way steepened, and the rank aquatic vegetation of the swamp, once a runnel, gave place to plants that effect a drier habitat, I could detect in the hollow of the hill some traces of the old path; but the place forms a receptacle into which the gusty winds sweep the shorn leafage of the hanging wood above, and so I had to stalk along the once trimly-kept walk, through a stratum of decayed leaves, half-leg deep. In the middle of the hanging wood I found what had been once the temple of Pan. There is a levelled space on the declivity, about half the size of an ordinary sitting parlour: the winds had swept it bare; and there distinctly visible on three sides of the area, is the foundation of a thin brick wall, that, where least broken, rises some six or eight inches above the level. A little further on, where the wood opens on one of the loveliest prospects I ever beheld, I found a decayed oak-post remaining, to indicate the *locale* of a seat that had once eulogized the landscape which it fronted in a classic Latin inscription. But both seat and inscription are gone. And yet maugre this desolation, not in the days of Shenstone did the Leasowes look so nobly from this elevation as they did this day. I was forcibly reminded of one of the poet's own remarks, and the completeness of its realisation:—"The works of a person that builds," he says, "begin immediately to decay; while those of him who plants begin directly to improve. In this, planting promises a more lasting pleasure than building." The trees of the Leasowes, when the Leasowes formed the home and furnished the employment of the



poet, seem to have been mere saplings. We find him thus writing to a friend in the summer of 1743:—"A malignant caterpillar has demolished the beauty of all our large oaks. Mine are secured by their littleness. But I guess Hagley Park suffers—a large wood near me being a winter-piece for nakedness." More than a hundred years have since elapsed, and the saplings of a century ago have expanded into the dignity of full-grown treehood. The hanging wood, composed chiefly of very noble beeches, with a sprinkling of graceful birches on its nether skirt, raises its crest so high as fully to double the height of the eminence which it crowns; while the oaks on the finely varied ground below, of imposing size, and exhibiting in their grouping the hand of the master, compose such a scene as the finest of the landscapes designed by Martin in illustration of Milton's "Paradise Lost." The day was warm, calm, cloudless; the lights and shadows lay clear and transparent on lake and stream, dell and dingle, green swelling lawn and tall forest-tree; and the hanging wood, and the mossy escarpment over which it hangs, were as musical in the bright sunshine, with the murmur of bees, as when, exactly a hundred and two years before, Shenstone was penning his pastoral ballad.

Quitting the hanging wood, I struck athwart the declivity; direct on the uppermost lake in the chain which I have described as lying, like a string of birds' eggs, along the bottom of the valley. I found it of small extent—a pond or lochan, rather than a lake—darkly coloured—its still black surface partially embroidered by floats of aquatic plants, among which I could detect the broad leaves of the water lily, though the flowers were gone—and overhung on all sides by careless groups of trees, that here and there dip their branches in the water. In one striking feature of the place we may still detect the skill of the artist. There is a little

island in the upper part of the lake, by much too small and too near the shore to have any particular interest as such; or, indeed, viewed from below, to seem an island at all. It is covered by a thick clump of alders of low growth, just tall enough and thick enough to conceal, screen-like, the steep bank of the lake behind. The top of the bank is occupied by several lofty oaks; and as the screen of alders hides the elevation on which they stand, they seem to rise direct from the level of the water to the giant stature of a hundred feet. The giants of the theatre are made by setting one man on the shoulders of another, and then throwing over both a large cloak;—the giant trees here are made by setting them upon the shoulders of a hill, and making the thick island-screen serve the purpose of the concealing mantle.

The second lake in the chain—a gloomier and smaller piece of water than the first, and much hidden in wood—has in its present state no beauty to recommend it; it is just such an inky pool, with rotten *snags* projecting from its sluggish surface, as a murderer would select for concealing the body of his victim. A forlorn brick ruin, overflowed by the neighbouring streamlet, and capped with sickly ivy, stands at the upper end—at the lower, the waters escape by a noisy cascade into a secluded swampy hollow, overshadowed by stately oaks and ashes, much intermixed with trees of a lower growth—yew, holly, and hazel—and much festooned with ivy. We find traces of an untrodden pathway on both sides the stream, with the remains of a small mouldering one-arched bridge, now never crossed over, and divested of both its parapets; and in the centre of a circular area, surrounded by trees of loftiest stature, we may see about twice as many bricks as an Irish labourer would trundle in a wheelbarrow, arranged in the form of a small square. This swampy hollow is the “Virgil’s Grove,” so elaborately described by Dodsley,

and which so often in the last age employed the pencil and the burine; and the two barrowfuls of brick are all that remain of the obelisk of Virgil. I had run not a few narrow chances of the kind before; but I now fairly sunk half to the knees in the miry bottom, and then pressing onwards, as I best could—

“ Quenched in a boggy Syrtis, neither sea  
Nor good dry land, nigh foundered, on I fared,  
Treading the crude consistence half on foot,  
Half flying,”

till I reached a drier soil beside yet another lake in the chain, scarce less gloomy, and even more sequestered, than the last. There stick out along its edges a few blackened stumps, on which several bushy clusters of fern have taken root, and which, overshadowed by the pendent fronds, seem so many small tree-ferns. I marked here, for the first time, the glance of scales and the splash of fins in the water; but they belonged not to the “fishes of gold” sung by the poet, but to some half-dozen pike that I suppose have long since dealt by the fishes of gold as the bulkier contemporaries of the famous Jack the Giant-killer used to deal by their guests. A further walk of a hundred yards through the wooded hollow brought me to the angle where the forks of the dell unite and form one valley. A considerable piece of water—by much the largest on the grounds—occupies the bottom of the broad hollow which they form by their union—the squat stem, to use a former illustration, of the letter Y; and a long narrow bay runs from the main body of the lake up each of the two forks, losing itself equally in both, as it contracts and narrows, amid the over-arching trees.

There is a harmony of form as certainly as of sound—a music to the eye in the one, as surely as to the ear in the other. I had hitherto witnessed much dilapidation and decay, but it

was dilapidation and decay on a small scale; I had seen merely the wrecks of a few artificial toys, scattered amid the sublime of nature; and there were no sensible jarrings in the silent concert of the graceful and the lovely, which the entire scene served to compose. Here, however, all of a sudden, I was struck by a harsh discord. Where the valley should have opened its noble gateway into the champaign—a gateway placed half-way between the extended magnificence of the expanse below, and the more closely concentrated beauties of the dells above—there stretches, from bank to bank, a stiff, lumpish, rectilinear mound, some seventy or eighty feet in height, by some two or three hundred yards in length, that bars out the landscape—deals, in short, by the wanderer along the lake or through the lower reaches of the dell, as some refractory land-steward deals by some hapless railway surveyor, when, squatting down full before him, he spreads out a broad extent of coat-tail, and eclipses the distant sight. Poor Shenstone!—it would have broken his heart. That unsightly mound conveys along its flat level line, straight as that of a ruler, the Birmingham and Hales Owen Canal. Poor Shenstone once more! With the peculiar art in which he excelled all men, he had so laid out his lakes, that the last in the series seemed to piece on to the great twenty-acre lake dug by the monks, and so to lose itself in the general landscape. And in one of his letters we find him poetical on the course of the vagrant streams—those of his own grounds—that feed it. “Their first appearance,” he says, “well resembles the playfulness of infancy; they skip from side to side with a thousand antic motions, that answer no other purpose than the mere amusement of the proprietor. They proceed for a few hundred yards, and then their severer labours begin, resembling the graver toils of manhood. They set mills in motion, turn wheels, and ply hammers for manufac-

tures of all kinds; and in this manner roll on under the name of the Stour, supplying works for casting, forging, and shaping iron for every civil and military purpose. Perhaps you may not know that my rills are the principal sources of this river; or that it furnishes the propelling power to more ironworks than almost any other single river in the kingdom." The dull mound now cuts off the sporting infancy of the Stour from its sorely-tasked term of useful riverhood. There is so cruel a barrier raised between the two stages, that we fail to identify the hard-working stream below with the playful little runnels above. The water comes bounding all obscurely out of the nether side of the mound, just as it begins its life of toil—a poor thing without a pedigree, like some hapless child of quality stolen by the gipsies, and sold to hard labour.

Passing upwards along the opposite branch of the valley, I found a succession of the same sort of minute desolations as I had met in the branch already explored. Shenstone's finest cascades lay in this direction; and very fine, judging from the description of Dodsley, they must have been. "The eye is here presented," says the poetic bibliopole, "with a fairy vision, consisting of an irregular and romantic fall of water, one hundred and fifty yards in continuity; and a very striking and unusual scene it affords. Other cascades may have the advantage of a greater descent and a larger stream; but a more wild and romantic appearance of water, and at the same time strictly natural, is difficult to be met with anywhere. The scene, though small, is yet aggrandized with so much art, that we forget the quantity of water which flows through this close and overshadowed valley, and are so much pleased with the intricacy of the scene, and the concealed height from whence it flows, that we, without reflection, add the idea of magnificence to that of beauty. In short, it is only upon reflection that we find the stream is not a Niagara, but rather



a waterfall in miniature; and that by the same artifice upon a larger scale, were there large trees in place of small ones, and a river instead of a rill, a scene so formed would exceed the utmost of our ideas." Alas for the beautiful cascade! Here still was the bosky valley, dark and solitary, with its long withdrawing bay from the lake speckled by the broad leaves of the water-lily; old gnarled stems of ivy wind, snake-like, round the same massy trunks along which they had been taught to climb in the days of the poet; but for the waterfall, the main feature of the scene, I saw only a dark trench—much crusted by mosses and liverworts, and much overhung by wood—that furrows the side of the hill; and for the tasteful root-house, erected to catch all the beauties of the place, I found only a few scattered masses of brick, bound fast together by the integrity of the cementing lime, and half-buried in a brown stratum of decayed leaves. A little further on, there lay across the runnel a huge monumental urn of red sandstone, with the base elevated and the neck depressed. It dammed up enough of the little stream to form a reservoir at which an animal might drink, and the clayey soil around it was dibbled thick at the time by the tiny hoofs of sheep. The fallen urn had been inscribed to the memory of Somerville<sup>1</sup> the poet.

This southern fork of the valley is considerably shorter than the northern one; and soon rising on the hill-side, I reached a circular clump of firs, from which the eye takes in the larger part of the grounds at a glance, with much of the surrounding country. We may see the Wrekin full in front, at a distance of about thirty miles; and here, in the centre of the circular clump, there stood, says Dodsley, an octagonal seat, with a pedestal-like elevation in the middle, that served

<sup>1</sup> William Somerville (1675-1842), author of the poem *The Chase*.



for a back, and on the top of which there was fixed a great punch-bowl, bearing as its appropriate inscription the old country toast, "To all friends round the Wrekin." Seat and bowl have long since vanished, and we see but the circular clump. At the foot of the hill there is a beautiful piece of water, narrow and long, and skirted by willows, with both its ends so hidden in wood, and made to wind so naturally, that instead of seeming what it is—merely a small pond—it seems one of the reaches of a fine river. We detect, too, the skill of the poet in the appearance presented from this point by the chain of lakes in the opposite fork of the valley. As seen through the carefully-disposed trees, they are no longer detached pieces of water, but the reaches of a great stream—a sweeping inflection, we may suppose, of the same placid river that we see winding through the willows immediately at the hill-foot. The Leasowes, whose collected waters would scarce turn a mill, exhibit, from this circular clump, their fine river scenery. The background beyond rises into a magnificent pyramid of foliage, the apex of which is formed by the tall hanging wood on the steep acclivity, and which sweeps downwards on each side in graceful undulations, now rising, now falling, according to the various heights of the trees or the inequalities of the ground. The angular space between the two forks of the valley occupies the foreground. It sinks in its descent towards the apex—for the pyramid is of course an inverted one—from a scene of swelling acclivities, fringed with a winding belt of squat, broad-stemmed beeches, into a soft sloping lawn, in the centre of which, deeply embosomed in wood, rise the white walls of the mansion-house. And such, as they at present exist, are the Leasowes—the singularly ingenious composition inscribed on an English hill-side, which employed for twenty long years the taste and genius of

Shenstone. An eye accustomed to contemplate nature merely in the gross, and impressed but by vast magnitudes or by great multiplicity, might not find much to admire in at least the more secluded scenes—in landscapes a furlong or two in extent, and composed of merely a few trees, a few slopes, and a pond, or in gloomy little hollows, with interlacing branches high overhead, and mossy runnels below. But to one not less accustomed to study the forms than to feel the magnitudes—who can see spirit and genius in even a vignette, beauty in the grouping of a clump, in the sweep of knoll, in the convexity of a mossy bank, in the glitter of a half-hidden stream, or the blue gleam of a solitary lochan—one who can appreciate all in nature that the true landscape-painter admires and develops—will still find much to engage him amid the mingled woods and waters, sloping acclivities, and hollow valleys of the Leasowes. I have not yet seen a piece of ground of equal extent that exhibits a tithe of its variety, or in which a few steps so completely alter the scene. In a walk of half a mile, one might fill a whole portfolio with sketches, all fine and various.

With the poet's erections, every trace of his lesser ingenuities has disappeared from the landscape—his peculiar art, for instance, of distancing an object to aggrandize his space, or in contriving that the visitor should catch a picturesque glimpse of it just at the point where it looked best; and that then, losing sight of it, he should draw near by some hidden path, over which the eye had not previously travelled. The artist, with his many-hued pigments at command, makes one object seem near and another distant, by giving to the one a deeper and to the other a fainter tinge of colour. Shenstone, with a palette much less liberally furnished, was skilful enough to produce similar effects with his variously-tinted shrubs and trees. He made

the central object in his vista some temple or root-house, of a faint retiring colour; planted around it trees of a diminutive size and a "blanched fady hue," such as the "almond willow" and "silver osier;" then, after a blank space, he planted another group of a deeper tinge—trees of the average hue of the forest, such as the ash and the elm; and then, last of all, in the foreground, after another blank space, he laid down trees of deep-tinged foliage, such as the dark glossy holly, and the still darker yew. To the aërial, too, he added the linear perspective. He broadened his avenues in the foreground, and narrowed them as they receded; and the deception produced he describes—and we may well credit him, for he was not one of the most easily satisfied—as very remarkable. The distance seemed greatly to increase, and the grounds to broaden and extend. We may judge from the nature of the device, of the good reason he had to be mortally wroth with members of the Lyttleton family, when, as Johnson tells us, they used to make a diversion in favour of Hagley, somewhat in danger of being eclipsed at the time, by bringing their visitors to look up his vistas from the wrong end. The picture must have been set in a woefully false light, and turned head downwards to boot, when the *distant* willows waved in the foreground beside the dimly-tinted obelisk or portico, and the *nearer* yews and hollies rose stiff, dark, and diminutive, in an avenue that broadened as it receded, a half-dozen bow-shots behind them. Hogarth's famous caricature on the false perspective of his contemporary brethren of the easel, would in such a case be no caricature at all, but a truthful representation of one of Shenstone's vistas viewed from the wrong end.

Some of the other arts of the poet are, however, as I have already had occasion to remark, still very obvious. It was one of his canons, that, "when an object had once been

viewed from its proper point, the foot should never travel to it by the same path which the eye had travelled over before." The visitor suddenly lost it, and drew near obliquely. We can still see that all his pathways, in order to accomodate themselves to this canon, were covered ways, which winded through thickets and hollows. Ever and anon, whenever there was aught of interest to be seen, they emerged into the open day, like moles rising for a moment to the light, and then straightway again buried themselves from view. It was another of his canons, that "the eye should always look down upon water." "Customary nature," he remarks, "made the thing a necessary requisite." "Nothing," it is added, "could be more sensibly displeasing than the breadth of flat ground," which an acquaintance, engaged, like the poet, though less successfully, in making a picture-gallery of his property, had placed "between his terrace and his lake." Now, in the Leasowes, whenever water is made to enter into the composition of the landscape, the eye looks down upon it from a commanding elevation—the visitor never feels, as he contemplates it, that he is in danger of being carried away by a flood, should an embankment give way. It was yet further one of Shenstone's canons, that "no mere slope from the one side to the other can be agreeable ground: the eye requires a balance," not, however, of the kind satirized by Pope, in which

"each alley has its brother,  
And half the platform just reflects the other;"

but the kind of balance which the higher order of landscape painters rarely fail to introduce into their works. "A building, for instance, on one side, may be made to contrast with a group of trees, a large oak, or a rising hill, on the other." And in meet illustration of this principle, we find that all the scenes of the Leasowes are at least well balanced,

though most of their central points are unluckily away: the eye never slides off the landscape, but cushions itself upon it with a sense of security and repose: and the feeling, even when one fails to trace it to its origin, is agreeable. "Whence," says the poet, "does this taste proceed, but from the love we bear to regularity in perfection? But, after all, in regard to gardens, the shape of the ground, the disposition of the trees, and the figure of the water, must be sacred to nature, and no forms must be allowed that make a discovery of art."

England has produced many greater poets than Shenstone, but she never produced a greater landscape-gardener. In at least this department he stands at the head of his class, unapproachable and apart, whether pitted against the men of his own generation, or those of the three succeeding ones. And in any province in which mind must be exerted, it is at least something to be first. The estimate of Johnson cannot fail to be familiar to almost every one. It is, however, so true in itself, and so exquisitely characteristic of stately old Samuel, that I must indulge in the quotation. "Now was excited his [Shenstone's] delight in rural pleasures, and his ambition of rural elegance. He began to point his prospects, to diversify his surface, to entangle his walks, and to wind his waters; which he did with such judgment and such fancy as made his little domain the envy of the great and the admiration of the skilful—a place to be visited by travellers and copied by designers. Whether to plant a walk in undulating curves, and to place a bench at every turn where there is an object to catch the view—to make water run where it will be heard, and to stagnate where it will be seen—to leave intervals where the eye will be pleased, and to thicken the plantation where there is something to be hidden—demand any great powers of mind, I will not

inquire: perhaps a surly and sullen spectator may think such performances rather the sport than the business of human reason. But it must be at least confessed, that to embellish the form of nature is an innocent amusement; and some praise must be allowed by the most supercilious observer to him who does best what such multitudes are contending to do well."

But though England had no such landscape-gardener as Shenstone, it possessed denizens not a few, who thought more highly of their own taste than of his; and so the history of the Leasowes, for the ten years that immediately succeeded his death, is a history of laborious attempts to improve what he had rendered perfect. This history we find recorded by Goldsmith, in one of his less known essays. Considerable allowance must be made for the peculiar humour of the writer, and its exaggerative tendency; for no story, real or imaginary, ever lost in the hands of Goldsmith; but there is at least an air of truth about its general details. "The garden," he says, "was completely grown and finished: the marks of every art were covered up by the luxuriance of nature—the winding walks were grown dark—the brooks assumed a natural selvedge—and the rocks were covered with moss. Nothing now remained but to enjoy the beauties of the place, when the poor poet died, and his garden was obliged to be sold for the benefit of those who had contributed to its embellishment.

"The beauties of the place had now for some time been celebrated as well in prose as in verse; and all men of taste wished for so envied a spot, where every turn was marked with the poet's pencil, and every walk awakened genius and meditation. The first purchaser was one Mr. Truepenny, a button-maker, who was possessed of three thousand pounds, and was willing also to be possessed of taste and genius.



“As the poet’s ideas were for the natural wildness of the landscape, the button-maker’s were for the more regular productions of art. He conceived, perhaps, that as it is a beauty in a button to be of a regular pattern, so the same regularity ought to obtain in a landscape. Be that as it will, he employed the shears to some purpose : he clipped up the hedges, cut down the gloomy walks, made vistas on the stables and hogsties, and showed his friends what a man of true taste should always be doing.

“The next candidate for taste and genius was a captain of a ship, who bought the garden because the former possessor could find nothing more to mend : but unfortunately he had a taste too. His great passion lay in building—in making Chinese temples and cage-work summer-houses. As the place before had the appearance of retirement, and inspired meditation, he gave it a more peopled air ; every turning presented a cottage or ice-house, or a temple ; the garden was converted into a little city, and it only wanted inhabitants to give it the air of a village in the East Indies.

“In this manner, in less than ten years the improvement has gone through the hands of as many proprietors, who were all willing to have taste, and to show their taste too. As the place had received its best finishing from the hands of the first possessor, so every innovator only lent a hand to do mischief. Those parts which were obscure, have been enlightened ; those walks which led naturally, have been twisted into serpentine windings. The colour of the flowers of the field is not more various than the variety of tastes that have been employed here, and all in direct contradiction to the original aim of its first improver. Could the original possessor but revive, with what a sorrowful heart would he look upon his favourite spot again ! He would scarcely recollect a dryad or a wood-nymph of his former acquaintance ;

and might perhaps find himself as much a stranger in his own plantation as in the deserts of Siberia."

The after history of the Leasowes is more simple. Time, as certainly as taste, though much less offensively, had been busy with seat and temple, obelisk and root-house; and it was soon found that, though the poet had planted, he had not built, for posterity. The ingenious antiquary of Wheatfield discovered in the parsonage-house garden of his village, some time about the middle of the last century, a temple of lath and plaster, which had been erected, he held, by the old Romans, and dedicated to Claudius Cæsar; but the lath and plaster of these degenerate days do not last quite so long. The progress of dilapidation was further accelerated by the active habits of occasional visitors. Young men tried their strength by setting their shoulders to the obelisks; and old women demonstrated their wisdom by carrying home pieces of the seats to their fires; a robust young fellow sent poor Mr. Somerville's urn a-spinning down the hill; a vigorous iconoclast beheaded the piping fawn at a blow. There were at first large additions made to the inscriptions, of a kind which Shenstone could scarce have anticipated; but anon inscriptions and additions too began to disappear; the tablet in the dingle suddenly failed to compliment Mr. Spence; and Virgil's grove no longer exhibited the name of Virgil. "The ruined Priory wall" became too thoroughly a ruin; the punch-bowl was shivered on its stand; the iron ladle wrenched from behind the ferruginous spring; in short, much about the time when young Walter Scott was gloating over Dodsley, and wishing he too had a property of which to make a plaything, what Shenstone had built and inscribed on the Leasowes could be known but from Dodsley alone. His artificialities had perished, like the artificialities of another kind of the poets his contemporaries; and nothing survived

in his more material works, as in their writings, save those delightful portions in which he had but given body and expression to the harmonies of nature.—(*First Impressions of England.*)

---

## XXIII

## IN THE HOME OF COWPER

[Miller was strongly attached to Cowper alike by his genuine literary qualities and by the fact that he “first poured the stream of Divine truth into the channels of our literature, after they had been shut against it for more than a hundred years.” For the poet’s anti-geological rhetoric he found excuses. In certain respects, too, their temperaments were akin. Both were Calvinists. On the Tuesday evening, 23rd December, 1856, which was to have no morrow for Miller, he read aloud, “in tones of anguish,” Cowper’s last poem, *The Castaway*.

“Misery still delights to trace  
Its semblance in another’s case.”]

OLNEY<sup>1</sup> stands upon the Oolite, on the northern side of the valley of the Ouse, and I approached it this morning from the south, across the valley. Let the reader imagine a long green ribbon of flat meadow, laid down in the middle of the landscape like a web on a bleaching green, only not quite so straightly drawn out. It is a ribbon about half a mile in breadth, and it stretches away lengthwise above and below, far as the eye can reach. There rises over it on each side a gentle line of acclivity, that here advances upon it in flat

<sup>1</sup> In the north of Buckinghamshire, a town now of about three thousand inhabitants: chiefly famous for its connection with Cowper. Weston-Underwood is about a mile from Olney.

promontories, there recedes into shallow bays, and very much resembles the line of a low-lying but exceedingly rich coast; for on both sides, field and wood, cottage and hedge-row, lie thick as the variously tinted worsteds in a piece of German needlework; the flat ribbon in the midst is bare and open, and through it there winds, from side to side, in many a convolution, as its appropriate pattern, a blue sluggish stream, deeply fringed on both banks by an edging of tall bulrushes. The pleasantly grouped village directly opposite, with the long narrow bridge in front, and the old handsome church and tall spire rising in the midst, is Olney; and that other village on the same side, about two miles further up the stream, with the exceedingly lofty trees rising over it—trees so lofty that they overhang the square tower of its church, as a churchyard cypress overhangs a sepulchral monument—is *Weston-Underwood*. In the one village Cowper produced “*The Task*”; in the other he translated “*Homer*.”

I crossed the bridge,<sup>1</sup> destined, like the “*Brigs of Ayr*” and the “*Bridge of Sighs*,” long to outlive its stone-and-lime existence; passed the church—John Newton’s;<sup>2</sup> saw John Newton’s house,<sup>3</sup> a snug building, much garnished with greenery; and then entered Olney proper—the village that was Olney a hundred years ago. Unlike most of the villages of central England, it is built, not of brick, but chiefly at least of a calcareous yellow stone from the Oolite, which, as it gathers scarce any lichen or moss, looks clean and fresh after the lapse of centuries; and it is not until the eye catches the dates on the peaked gable points, 1682, 1611, 1590, that one can regard the place as no hastily run up town of yester-

<sup>1</sup> Olney bridge. See *The Task*, book iv.

<sup>2</sup> The Rev. John Newton, vicar of Olney, Cowper’s friend, and collaborator in *The Olney Hymns*.

<sup>3</sup> The Vicarage.

day, but as a place that had a living in other times. The main street, which is also the Bedford road, broadens towards the middle of the village into a roomy angle, in shape not very unlike the capacious pocket of a Scotch housewife of the old school; one large elm-tree rises in the centre; and just opposite the elm, among the houses which skirt the base of the angle—*i.e.*, the bottom of the pocket—we see an old-fashioned house, considerably taller than the others, and differently tinted; for it is built of red brick, somewhat ornately bordered with stone. And this tall brick house was Cowper's home for nineteen years.<sup>1</sup> It contains the parlour, which has become such a standard paragon of snugness and comfort that it will need no repairs in all the future; and the garden behind is that in which the poet reared his cucumbers and his Ribston pippins, and in which he plied hammer and saw to such excellent purpose, in converting his small greenhouse into a summer sitting-room, and in making lodging-houses for his hares. He dated from that tall house not a few of the most graceful letters in the English language, and matured, from the first crude conceptions to the last finished touches, "Truth," "Hope," "The Progress of Error," "Retirement," and "The Task." I found the famed parlour vocal with the gabble of an infant-school: carpet and curtains were gone, sofa and bubbling urn; and I saw, instead, but a few deal forms, and about two dozen chubby children, whom all the authority of the thin old woman, their teacher, could not recall to diligence in the presence of the stranger. The walls were sorely soiled, and the plaster somewhat broken; there was evidence, too, that a partition had been removed, and that the place was roomier by one-half than

<sup>1</sup> 1767–1786. The house was known as "Orchard Side." On 25th April, 1900, the centenary of Cowper's death, it was presented to the town and nation.



when Cowper and Mrs. Unwin<sup>1</sup> used to sit down in it to their evening tea. But at least one interesting feature had remained unchanged. There is a small port-hole, in the plaster, framed by a narrow facing of board; and through this port-hole, cut in the partition for the express purpose, Cowper's hares used to come leaping out to their evening gambols on the carpet. I found the garden, like the house, much changed. It had been broken up into two separate properties; and the proprietors having run a wall through the middle of it, one must now seek the pippin-tree which the poet planted, in one little detached bit of garden; and the lath-and-plaster-summer-house, which, when the weather was fine, used to form his writing-room,<sup>2</sup> in another. The Ribston pippin looks an older-like tree, and has more lichen about it, though far from tall for its age, than might be expected of a tree of Cowper's planting; but it is now seventy-nine years since the poet came to Olney, and in less than seventy-nine years young fruit-trees become old ones. The little summer-house, maugre the fragility of its materials, is in a wonderfully good state of keeping: the old lath still retains the old lime; and all the square inches and finger-breadths of the plaster, inside and out, we find as thickly covered with names as the space in our ancient Scotch copies of the "Solemn League and Covenant."<sup>3</sup> Cowper would have marvelled to have seen his little summer-house—for little it is—scarce larger than a four-posted bed-steed—written, like the roll described in sacred vision, "within and without." It has still around it, in its green old age, as when it was younger and less visited, a great profusion of flowering shrubs

<sup>1</sup> Cowper's faithful friend and companion for twenty years.

<sup>2</sup> Cowper called it his "boudoir": "here I write all that I write in summer time." Letter, 25th June, 1785.

<sup>3</sup> Miller means the *National Covenant* of 1638 not the *Solemn League* of 1643. It is a common confusion, but a strange one for him to have made.



and hollyhocks; we have seen from its window the back of honest John Newton's house, much enveloped in wood, with the spire of the church rising over; and on either side there are luxuriant orchards, in which the stiffer forms of the fruit-trees are relieved by lines of graceful poplars. Some of the names on the plaster are not particularly classical. My conductress pointed to one signature, in especial, which was, she said, an object of great curiosity, and which a "most respectable person"—"*just after the execution*"—had come a day's journey to see. It was that of the hapless "John Tawell, Great Birkenstead, Hants," who about two years ago was hung for the murder of his mistress. It had been added to the less celebrated names, for so the legend bore, on the "21st day of seventh month 1842;" and just beside it some kind friend of the deceased had added, by way of postscript, the significant hieroglyphic of a minute human figure suspended on a gibbet, with the head rather uncomfortably twisted awry.

I had made several unsuccessful attempts to procure a guide acquainted with the walks of the poet, and had inquired of my conductress (an exceedingly obliging person, I may mention—housekeeper of the gentleman to whom the outermost of the two gardens belongs), as of several others, whether she knew any one at once willing and qualified to accompany me for part of the day in that capacity. But she could bethink herself of nobody. Just, however, as we stepped out from the garden into the street, there was an old woman in a sad-coloured cloak, and bearing under the cloak a bulky basket, passing by. "Oh," said the housekeeper, "there is just the person that knows more about Cowper than any one else. She was put to school, when a little girl, by Mrs. Unwin, and was much about her house at Weston-Underwood. Gossip, gossip! come hither." And so I secured the old woman as

my guide; and we set out together for Weston and the pleasure-grounds of the Throckmortons. She was seventy-one, she said; but she walked every day with her basket from Weston-Underwood to Olney—sometimes, indeed, twice in the day—to shop and market for her neighbours. She had now got a basket of fresh herrings, which were great rarities in these parts, and it behoved her to get them delivered; but she would then be quite free to accompany me to all the walks in which she had seen Squire Cowper a hundred and a hundred times—to the “Peasant’s Nest,”<sup>1</sup> and the “alcove,”<sup>2</sup> and the “avenue,”<sup>3</sup> and the “rustic bridge,”<sup>4</sup> and the “Wilderness,” and “Yardley oak,”<sup>5</sup> and, in short, anywhere or everywhere. I could not have been more in luck: my delightful old woman had a great deal to say; she would have been equally garrulous, I doubt not, had Cowper been a mere country squire, and Mrs. Unwin his housekeeper; but as he chanced to be a great poet, and as his nearer friends had, like the planets of a central sun, become distinctly visible, from their proximity, by the light which he cast, and were evidently to remain so, her gossip about him and them I found vastly agreeable. The good Squire Cowper! she said—well did she remember him, in his white cap, and his suit of green turned up with black. She knew the Lady Hesketh<sup>6</sup> too. A kindly lady was the Lady Hesketh; there are few such ladies now-a-days: she used to put coppers into her little velvet bag every time she went out, to make the children she met happy; and both she and Mrs. Unwin were

<sup>1</sup> A “low-roof’d lodge” on a hill. See *The Task*, book i.

<sup>2</sup> “The proud alcove” (*The Task*, book i.), Weston Park.

<sup>3</sup> An avenue of lime trees, Weston Park (*The Task*, book i.).

<sup>4</sup> *The Task*, book i. In “the Wilderness” was a “Gothic temple,” a favourite resort of Newton and Cowper.

<sup>5</sup> See *Poems*.

<sup>6</sup> Cowper’s beautiful cousin.

remarkably kind to the poor. The road to Weston-Underwood looks down upon the valley of the Ouse. "Were there not water-lilies in the river in their season?" I asked; "and did not Cowper sometimes walk out along its banks?" "O yes," she replied; "and I remember the dog Beau, too, who brought the lily ashore to him. Beau was a smart, petted little creature, with silken ears, and had a good deal of red about him."

My guide brought me to Cowper's Weston residence,<sup>1</sup> a handsome, though, like the Olney domicile, old-fashioned house, still in a state of good repair, with a whitened many-windowed front, and tall steep roof flagged with stone; and I whiled away some twenty minutes or so in the street before it, while my old woman went about dispersing her herrings. Weston-Underwood, as villages go, must enjoy a rather quiet do-nothing sort of existence, for in all that time not a passenger went by. The houses—steep-roofed, straw-thatched, stone-built erections, with the casements of their second storeys lost in the eaves—straggle irregularly on both sides of the road, as if each house had an independent will of its own, and was somewhat capricious in the exercise of it. There is a profusion of well-grown, richly-leaved vines, trailed up against their walls: the season had been unfavourable, and so the grapes, in even the best bunches, scarcely exceeded in size our common red currants; but still they were *bona fide* vines and grapes, and their presence served to remind one of the villages of sunnier climates. A few tall walls and old gateway columns mingle with the cottages, and these are all that now remain of the mansion-house of the Throckmortons.<sup>2</sup>—(*First Impressions of England.*)

<sup>1</sup> Weston Lodge, from 1786 till 1796.

<sup>2</sup> Sir John and Lady Throckmorton, owners of Weston, and close friends of the Calvinistic poet, though Roman Catholics.

## XXIV

## AT STRATFORD-ON-AVON

THE drive from Birmingham, for the greater part of the way, is rather tame. There is no lack of fields and hedge-rows, houses and trees; but from the great flatness of the country, they are doled out to the eye in niggardly detail, at the rate of about two fields and three hedge-rows at a time. Within a few miles of Stratford-on-Avon, however, the scenery improves. We are still on the Upper New Red Sandstone, and on this formation the town is built: but the Lias beyond shoots out, just on the line of our route, into a long promontory, capped by two insulated outliers, that, projected far in advance, form the outer picquets of the newer and higher system; and for some four or five miles ere we enter the place, we coast along the tree-mottled shores of this green headland and its terminal islands. A scattered suburb introduces us to a rather commonplace-looking street of homely brick houses, that seem as if they had all been reared within the last half century; all, at least, save one, a rude, unsightly specimen of the oak-framed domicile of the days of Elizabeth and James. Its walls are incrustated with staring white-wash, its beams carelessly daubed over with lamp-black; a deserted butcher's shop, of the fifth-rate class, with the hooks still sticking in the walls, and the sill-board still spread out, as if to exhibit the joints, occupies the ground-floor; the one upper storey contains a single rickety casement, with a forlorn flower-pot on the sill; and directly in front of the building there is what seems a rather clumsy signboard, hung between two poles, that bears on its weather-beaten surface a double line of white faded letters

on a ground of black. We read the inscription, and this humblest of dwellings—humble, and rather vulgar to boot—rises in interest over the palaces of kings:—"The immortal Shakspeare was born in this house."<sup>1</sup> I shall first go and see the little corner his birth-place, I said, and then the little corner his burial-place: they are scarce half a mile apart, nor, after the lapse of more than two centuries, does the intervening modicum of time between the two events, his birth and his burial, bulk much larger than the modicum of space that separates the respective scenes of them; but how marvellously is the world filled with the cogitations which employed that one brain in that brief period! Could it have been some four pounds' weight of convoluted matter, divided into two hemispheres, that, after originating these buoyant immaterialities, projected them upon the broad current of time, and bade them sail onwards and downwards for ever? I cannot believe it: the sparks of a sky-rocket survive the rocket itself but a very few seconds. I cannot believe that these thoughts of Shakspeare, "that wander through eternity," are the mere sparks of an exploded rocket—the mere scintillations of a little galvanic battery, made of fibre and albumen, like that of the torpedo, and whose ashes would now lie in the corner of a snuff-box.

I passed through the butcher's shop,<sup>2</sup> over a broken stone pavement, to a little gloomy kitchen behind, and then, under charge of the guide, up a dark narrow stair, to the low-browed room in which the poet was born. The floor of old oak, much worn in the seams, has apparently undergone no

<sup>1</sup>That Shakspeare was born in this house, as generally accepted since the middle of the eighteenth century, is an exceedingly doubtful claim. Cf. Lee's *Life of Shakespeare*, p. 8.

<sup>2</sup>The house passed to the Harts, descendants of the poet's sister, with whom, as butchers, it remained until 1806. *Ibid.*, p. 8.



change since little Bill, be-frocked and be-booted in woollen prepared from the rough material by the wool-comber, his father, coasted it along the walls, in bold adventure, holding on, as he went, by tables and chairs. The ceiling, too, though unluckily covered up by modern lath and plaster, is in all probability that which stretched over the head of the boy. It presents at least no indication of having been raised. A man rather above the middle size may stand erect under its central beam with his hat on, but with certainly no room to spare; and it seems more than probable that, had the old ceiling been changed for another, the new one would have been heightened. But the walls have been sadly altered. The one window of the place is no longer that through which Shakspeare first saw the light; nor is the fireplace that at which he stealthily lighted little bits of stick, and twirled them in the air, to see the fiery points converted into fiery circles. There are a few old portraits and old bits of furniture, of somewhat doubtful lineage, stuck round the room; and, on the top of an antique cabinet, a good plaster cast of the monumental bust in the church, in which, from its greater accessibility, one can better study than in the original the external signs affixed by nature to her mind of largest calibre. Every part of the walls and ceiling is inscribed with names. I might add mine, if I chose, to the rest, the woman told me; but I did not choose it. Milton and Dryden would have added theirs; he, the sublimest of poets, who, ere criticism had taken the altitude of the great writer whom he so fervently loved and admired, could address him in the fondness of youthful enthusiasm as "my Shakspeare"; and he, the sympathetic critic, who first dared to determine that, "of all modern, and perhaps ancient poets, Shakspeare had the largest and most comprehensive soul." Messrs. Wiggins and Tims, too, would have added *their* names; and all right.



They might not exactly see for themselves what it was that rendered Shakspeare so famous; but their admiration, entertained on trust, would be at least a legitimate *echo* of his renown; and so their names would have quite a right to be there as representative of the outer halo—the *second* rainbow, if I may so express myself—of the poet's celebrity. But I was ashamed to add mine. I remembered that I was a *writer*; that it was my *business* to write—to cast, day after day, shavings from off my mind—the figure is Cowper's—that went rolling away, crisp and dry, among the vast heap already on the floor, and were never more heard of; and so I didn't add my name. The woman pointed to the album, or rather set of albums, which form a record of the visitors, and said her mother could have turned up for me a great many names that strangers liked to look at; but the old woman was confined to her bed, and she, considerably less at home in the place, could show me only a few. The first she turned up was that of Sir Walter Scott; the second, that of Charles Dickens. "You have done remarkably well," I said; "your mother couldn't have done better. Now, shut the book."

. . . . .

On the opposite side of the lane, directly fronting the chapel, and forming the angle where lane and street unite, there is a plain garden-wall, and an equally plain dwelling-house; and these indicate the site of Shakspeare's domicile—the aristocratic mansion—one of the "greatest," it is said, in Stratford—which the vagrant lad, who had fled the country in disgrace, returned to purchase for himself, when still a young man—no longer a vagrant, however, and "well-to-do in the world." The poet's wildnesses could not have lain deep in his nature, or he would have scarce have been a wealthy citizen of Stratford in his thirty-third year. His

gardens extended to the river side—a distance of two or three hundred yards; and doubtless the greater part of some of his later dramas must have been written amid their green alleys and straight-lined walks—for they are said to have been quaint, rich, and formal, in accordance with the taste of the period; and so comfortable a mansion was the domicile, that in 1643, Queen Henrietta, when at Stratford with the Royalist army, made it her place of residence for three weeks. I need scarce tell its subsequent story. After passing through several hands, it was purchased, about the middle of the last century, by the Rev. Francis Gastrall—a nervous, useless, ill-conditioned man, much troubled by a bad stomach and an unhappy temper. The poet's mulberry tree had become ere now an object of interest; and his reverence, to get rid of the plague of visitors, cut it down and chopped it into faggots. The enraged people of the town threw stones and broke his reverence's windows; and then, to spite them still more, and to get rid of a poor-rate assessment to boot, he pulled down the poet's house. And so his reverence's name shares, in consequence, in the celebrity of that of Shakspeare—"pursues the triumph and partakes the gale." The Rev. Francis Gastrall must have been, I greatly fear, a pitiful creature; and the clerical prefix in no degree improves the name.

The quiet street gets still quieter as one approaches the church. We see on either side a much greater breadth of garden-walls than of houses—walls with the richly-fruited branches peeping over; and at the churchyard railing, thickly overhung by trees, there is so dense a mass of foliage, that of the church, which towers so high in the distance, we can discern no part save the door. A covered way of thick o'er-arching limes runs along the smooth flat gravestones from gateway to doorway. The sunlight was streaming this

day in many a fantastic patch on the lettered pavement below, though the chequering of shade predominated; but at the close of the vista the Gothic door opened dark and gloomy, in the midst of broad sunshine. The Avon flows past the churchyard wall. One may drop a stone at arm's length over the edge of the parapet, into four-feet water, and look down on shoals of tiny fish in play around the sedges. I entered the silent church, and passed along its rows of old oak pews, on to the chancel. The shadows of the trees outside were projected dark against the windows, and the numerous marbles of the place glimmered cold and sad in the thickened light. The chancel is raised a single step over the floor—a step some twelve or fourteen inches in height; and, ranged on end along its edge, just where the ascending foot would rest, there lie three flat tombstones. One of these covers the remains of “William Shakspeare, Gentleman;” the second, the remains of his wife, Anne Hathaway; while the third rests over the dust of his favourite daughter Susanna, and her husband John Hall. And the well-known monument—in paly tints of somewhat faded white lead—is fixed in the wall immediately above, at rather more than a man's height from the floor.

At the risk of being deemed sadly devoid of good taste, I must dare assert that I better like the homely monumental bust of the poet, low as is its standing as a work of art, than all the idealized representations of him which genius has yet transferred to marble or canvas. There is more of the true Shakspeare in it. Burns complained that the criticisms of Blair, if adopted, would make his verse “too fine for either warp or woof;” and such has been the grand defect of the artistic idealisms which have been given to the world as portraits of the dramatist. They make him so pretty a fellow, all redolent of poetic odours, “shining so brisk”

and "smelling so sweet," like the fop that annoyed Hotspur, that one seriously asks if such a person could ever have got through the world. No such type of man, leaving Stratford penniless in his twenty-first year, would have returned in his thirty-third to purchase the "capital message" of New Place, "with all the appurtenances," and to take rank amid the magnates of his native town. The poet of the artists would never have been "William Shakspeare, *Gentleman*," nor would his burying-ground have lain in the chancel of his parish church. About the Shakspeare of the stone bust, on the contrary, there is a purpose-like strength and solidity. The head, a powerful mass of brain, would require Dr. Chalmers's hat; the forehead is as broad as that of the doctor, considerably taller, and of more general capacity; and the whole countenance is that of a shrewd, sagacious, kindly-tempered man, who could, of course, be poetical when he willed it—vastly more so than anybody else—but who mingled wondrous little poetry in the management of his everyday business. The Shakspeare of the stone bust could, with a very slight training, have been Chancellor of the Exchequer; and in opening the budget, his speech would embody many of the figures of Cocker, judiciously arranged, but not one poetical figure.

On quitting the church, I walked for the better part of two miles upwards along the Avon—first on the Stratford side to the stone bridge, which I crossed, and then on the side opposite, through quiet, low-lying meadows, bordered by fields. Up to the bridge the stream is navigable, and we may see the occasional sail gleaming white amid the green trees, as it glides past the resting place of the poet. But on the upper side there are reaches through which even a slight shallop would have difficulty in forcing her way. The bulrush attains, in the soft oozy soil that forms the sides

and bottom of the river, to a great size: I pulled stems from eight to ten feet in height; and in the flatter inflections, where the current stagnates, it almost chokes up the channel from side to side. Here it occurs in tall hedge-like fringes that line and overtop the banks—there, in island-like patches, in the middle of the stream—yonder, in diffused traverse thickets, that seem to connect the fringes on the one side with the fringes on the other. I have rarely seen anything in living nature—nature recent and vital—that better enabled me to realize the luxuriant aquatic vegetation of the Coal Measures. The unbroken stream dimples amid the rushes; in the upper depths we may mark, as some burnished fly flutters along the surface, the sullen plunge of the carp; the eel, startled by the passing shadow, wriggles outward from its bank of mud; while scores of careless gudgeons, and countless shoals of happy minnows, dart hither and thither, like the congregated midges that dance unceasingly in the upper element, but a few inches over them. For the first mile or so, the trees which line the banks are chiefly old willow pollards, with stiff rough stems and huge bunchy heads. Shrubs of various kinds, chiefly, however, the bramble and the woody nightshade, have struck root a-top into their decayed trunks, as if these formed so many tall flower-pots; and we may catch, in consequence, the unwonted glitter of glossy black and crimson berries from amid the silvery leaves. The scenery improves as we ascend the stream. The willow pollards give place to forest trees, carelessly grouped, that preserve, unlopped and un mutilated, their proper proportions. But the main features of the landscape remain what they were. A placid stream, broadly befringed with sedges, winds in tortuous reaches through rich meadows; and now it sparkles in open sunlight, for the trees recede; and anon it steals away, scarce seen, amid the gloom of bosky thickets.

And such is the Avon—Shakspeare's own river. Here must he have wandered in his boyhood, times unnumbered. That stream, with its sedges and its quick glancing fins—those dewy banks, with their cowslips and daffodils—trees chance-grouped, exactly such as these, and to which these have succeeded—must all have stamped their deep impress on his mind; and, when an unsettled adventurer in London, they must have risen before him in all their sunshiny peacefulness, to inspire feelings of sadness and regret; and when, in after days, he had found his true vocation, their loved forms and colours must have mingled with the tissue of his poetry. And here must he have walked in sober middle life, when fame and fortune had both been achieved, haply to feel amid the solitude that there is but little of solid good in either, and that, even were it otherwise, the stream of life glides away to its silent bourne, from their gay light and their kindly shelter, to return no more for ever. What would his thoughts have been, if, after spending in these quiet recesses his fiftieth birthday, he could have foreseen that the brief three score and ten annual revolutions—few as certainly as evil—which have so long summed up the term of man's earthly existence, were to be mulcted, in his case, of full seventeen years!—(*First Impressions of England.*)

---



## XXV

## DUGALD STEWART

[The occasion of the following critique appears to have been the publication of Stewart's *Works*, under the editorship of Hamilton (11 vols., 1854-58) Dugald Stewart (1753-1821) was Professor of Moral Philosophy in Edinburgh University, 1785-1810, a position which he secured in the haphazard fashion of the time. He was a follower and expositor, in his own "eloquent" and persuasive way, of the philosophy of Thomas Reid, which sought refuge from the results of the sceptical enquiries of Berkeley and Hume in the ultimate principles of thought common to all men, rather unfortunately styled the "common sense." This was the "Scottish Philosophy" which Miller accepted as his metaphysics. Stewart contributed nothing to the scheme, and few, it is to be feared, despite Miller's advice, now dip into his fluent and not unattractive expositions.]

It is now more than forty years since it was remarked by Jeffrey, in his *Review*, that metaphysical science was decidedly on the decline in Scotland. Dugald Stewart, though in a delicate state of health at the time, was in the full vigour of his faculties, and had still eighteen years of life before him; Thomas Brown had just been appointed his assistant and successor in the Moral Philosophy Chair of the University of Edinburgh; and the *élite* of the Scottish capital were flocking in crowds to his class-room, captivated by the eloquence and ingenuity of his singularly vigorous and original lectures. Even fifteen years subsequent, Dr. Welsh could state, in the *Life* of his friend, that the reception of his work on the *Philosophy of the Human Mind* had been "favourable to a degree of which, in metaphysical writings, there was no parallel." It has been recorded as a very remarkable cir-

umstance, that the *Essay* of Locke—produced at a period when the mind of Europe first awoke to general activity in the metaphysical province—passed through seven editions in the comparatively brief space of fourteen years. The *Lectures* of Dr. Brown passed through exactly seven editions in *twelve* years, and this at a time when, according to Jeffrey, that science of mind of which they treated was in a state of gradual decay. The critic was, however, in the right. The genius of Brown had imparted to his brilliant posthumous work an interest which could scarce be regarded as attaching to the subject of it; and in a few years after—from about the year 1835 till after the disruption of the Scottish Church—metaphysical science had sunk, not in Scotland only, but all over Britain, to its lowest ebb.<sup>1</sup> A few retired scholars continued to prosecute their researches in the province of mind; but scarce any interest attached to their writings, and not a bookseller could be found hardy enough to publish at his own risk a metaphysical work. We are old enough to remember a time, contemporaneous with the latter days of Brown, when young students, in their course of preparation for the learned professions, especially for the Church, used to be ever recurring in conversation to the staple metaphysical questions—occasionally, no doubt, much in the style of Jack Lizard in the *Guardian*, who comforted his mother, when the unlucky lady was so unlucky as to scald her hand with the boiling tea-kettle, by assuring her there was no such thing as heat,<sup>2</sup> but which at least served to show that this branch of liberal education fully occupied the mind of the individuals

<sup>1</sup> Phrenology and speculation on its lines was, for the time, the dominant fashion of thought (see p. 148).

<sup>2</sup> A mistaken hit at Berkeley, who held that, in popular phrase, “there is no matter”—that is, that the material world cannot be said to “exist” apart from thinking mind.

ostensibly engaged in mastering it ; and we remember a subsequent time, when students—some of them very clever ones—seemed never to have thought on these questions at all, and remained silent in conversation when they chanced to be mooted by the men of an earlier generation. During, however, the last ten years, mainly through the revival of a taste for metaphysical inquiry in France and Germany, which has reacted on this country, abstract questions on the nature and functions of mind are again acquiring their modicum of space and importance in Scotland. Our country no longer takes the place it once did among the nations in this department, and never again may ; but it at least begins to remember it once was, and to serve itself heir to the works of the older masters of mind ; and we regard it as an evidence of the reaction to which we refer, that a greatly more complete edition of the writings of Dugald Stewart than has yet appeared is at the present time in the course of issuing from the press of one of our most respected Scottish publishers—the inheritor of a name paramount in the annals of the trade—Mr. Thomas Constable.

The writings of Dugald Stewart have been unfortunate in more than that state of exhaustion and syncope into which metaphysical science continued to sink during the lapse of more than half a generation after the death of their author, and the commencement of which had been remarked by Jeffrey more than half a generation before. From some peculiar views—founded, we believe, on an overweening estimate of their pecuniary value—the son and heir of the philosopher tabooed their publication ; and it is only now that, in consequence of his death, and of the juster views entertained on the subject by a sister, also recently deceased, that they are permitted to reappear. This time, however, from that awakened interest in metaphysical speculation

which we have remarked, seems highly favourable for such an undertaking; and we cannot doubt that the work will find what it deserves—a sure and steady, if not very rapid sale. Stewart may be regarded as not merely one of the more distinguished members of the Scottish school of metaphysics, but as peculiarly its historian and exponent. The mind of Reid was cast in a more original mould, but he wanted both the elegance and the eloquence of Stewart, nor were his powers of illustration equally great. His language, too, was not only less refined and flowing, but also less scientifically correct, than that of his distinguished exponent and successor. We would cite, for instance, the happy substitution by the latter of the terms “laws of human thought and belief,” for the unfortunate phrases “common sense” and “instinct,” which raised so extensive a prejudice against the vigorous protest against scepticism made in other respects so effectively by Reid; and he passes oftener from the abstractions of his science into the regions of life and character in which all must feel interested, however slight their acquaintance with the subtleties of metaphysical speculation. The extraordinary excellence of Professor Stewart’s style, has been recognised by the highest authorities. Robertson<sup>1</sup> was perhaps the best English writer of his day. The courtly Walpole, on ascertaining that he spoke Scotch, told him he was heartily glad of it; for “it would be too mortifying,” he added, “for Englishmen to find that he not only wrote, but also spoke, their language better than themselves.” And yet the Edinburgh Reviewers recognised Stewart as the writer of a more exquisite style than even Robertson. And Sir James Mackintosh, no mean judge, characterizes him as the most perfect, in an artistic point of view, of the philosophical writers of Britain. “Probably no writer ever exceeded him,”

<sup>1</sup> Principal Robertson of the *Histories*. See p. 142, note.

says Sir James, "in that species of eloquence which springs from sensibility to literary merit and moral excellence; which neither obscures science by prodigal ornament, nor disturbs the serenity of patient attention; but, though it rather calms and soothes the feelings, yet exalts the genius, and insensibly inspires a reasonable enthusiasm for whatever is good and fair." Now, it is surely not unimportant that the writings of such a man, simply in their character as literary models, should be submitted to an age like the present, especially to its Scotchmen. It is stated by Hume, in one of his letters to Robertson, that meeting in Paris with the lady who first gave to the French a translation of Charles V., he asked her what she thought of the style of the work, and that she instantly replied, with great *naïveté*, "Oh, it is such a style as only a Scotchman could have written." Scotland did certainly stand high in the age of Hume and Mackenzie,<sup>1</sup> of Robertson and of Adam Smith, for not only the vigour of its thinking, but also for the purity and excellence of its style. We fear, however, it can no longer arrogate to itself praise on this special score. There have been books produced among us during the last twenty years, which have failed in making their way into England, mainly in consequence of the slipshod style in which they were written. A busy age, much agitated by controversy, is no doubt unfavourable to the production of compositions of classic beauty. "The rounded period," says an ingenious French writer, "opens up the long folds of its floating robe in a time of stability, authority, and confidence. But when literature has become a means of action, instead of continuing to be used for its own sake, we no longer amuse ourselves with the turning of

<sup>1</sup> Henry Mackenzie of *The Man of Feeling*. Scotch writers of the time were much concerned about their "style," which was English bred. Miller was of the same school, though late.



periods. The period is contemporary with the peruke—the period is the peruke of style. The close of the eighteenth century shortened the one as much as the other. The peruke reaching the middle of the loins could not be suitable to men in haste to accomplish a work of destruction. When was J. J. Rousseau himself given to the turning of periods? Assuredly it was not in his pamphlets!” Now the style of Stewart was first formed, we need scarce remark, during that period of profound repose which preceded the French Revolution; and his after-life, spent in quiet and thoughtful retirement, with the classics of our own and other countries, ancient and modern, for his companions, and with composition as his sole employment—though the world around him was fiercely engaged with politics or with war—had nothing in it to deteriorate it. He never heard the steam-press groaning, as the night wore late, for his unfinished lucubrations; nay, we question if he ever wrote a careless or hurried sentence. His naturally faultless taste had full space to satisfy itself with whatever he deemed it necessary to perform; and hence works of finished beauty, which, as pieces of art, the younger *literati* of Scotland would do well to study and imitate. There may be differences of opinion regarding the standing of Stewart as a metaphysician, but there are no differences of opinion regarding his excellence as a writer.—  
(*Leading Articles.*)

---



## XXVI

MIRACLE *VERSUS* THE DEVELOPMENT  
HYPOTHESIS

[The following extract is given as a specimen of Miller's philosophical reasoning on a critical issue, the opposition between "special creation" and "evolution," or, as it was known in its early form of his day, "the development hypothesis." The main object of attack is Hume's famous *Essay on Miracles*. Of Hume's work as a whole Miller had been in his youth a diligent, and, up to a point, an appreciative student. The argument from Probability here developed, and for long current as a refutation of Hume, is to be countered by the consideration that a "violation of the laws of nature" is not one in a series of probabilities in the order of nature susceptible of calculation, as is the chance of throwing six aces simultaneously with six perfect dice, but, scientifically viewed, a departure from probability, a "singular effect." The introduction of a "First Cause" shows that Miller finds himself forced to abandon his purely logical ground. He, of course, flatly denied the presence of any evidence for the "development hypothesis," and devoted *Footprints of the Creator* to a refutation of it as presented in Chambers's *Vestiges of Creation*.]

BUT in what form, it may be asked, or with what limitations, ought the Christian controversialist to avail himself, in this question, of the experience argument? Much ought to depend, I reply, on the position taken up by the opposite side. We find no direct reference made by the author of the *Vestiges* to the anti-miracle argument, first broached by Hume, in a purely metaphysical shape, in his well-known *Inquiry*, and afterwards thrown into the algebraic form by

La Place, in his *Essai Philosophique sur les Probabilités*; but we do detect its influences operative throughout the entire work. It is because of some felt impracticability on the part of its author, of attaining to the prevailing belief in the *miracle* of creation, that he has recourse, instead, to the so-called *law* of development. The *law* and the *miracle* are the alternatives placed before him; and, rejecting the *miracle*, he closes with the *law*. Now, in such circumstances, he can have no more cause of complaint, if, presenting him with the experience argument of Hume and La Place, we demand that he square the evidence regarding the existence of his *law* strictly according to its requirements, than the soldier of an army that charged its field-pieces with rusty nails would have cause of complaint if he found himself wounded by a missile of a similar kind, sent against him by the artillery of the enemy. You cannot, it might be fairly said, in addressing him, acquiesce in the miracle here, because, as a violation of the laws of nature, there are certain objections, founded on invariable experience, which bear direct against your belief in it. Well, here are the objections, in the strongest form in which they have yet been stated; and here is your hypothesis respecting the development of marine algæ into terrestrial plants. We hold that against that hypothesis the objections bear at least as directly as against any miracle whatever—nay, that not only is it contrary to an invariable experience, but opposed also to all testimony. We regard it as a mere idle dream. Maillet dreamed it—and Lamarck dreamed it—and Oken dreamed it; but none of them did more than merely dream it: its existence rests on exactly the same basis of evidence as that of Whang the miller's "monstrous pot of gold and diamonds," of which he dreamed three nights in succession, but which he never succeeded in finding. If we are in error in our estimate, here is the argument, and here the hypothesis:

give us in support of the hypothesis, the amount of evidence, founded on a solid experience, which the argument demands.

But to leave the experience argument in exactly the state in which it was left by Hume and La Place, would be doing no real justice to our subject. It is in that case quite sufficient to establish the fact, that there can be no real escape from belief in *acts of creation* never witnessed by man, to *processes of development* never witnessed by man, seeing that a presumed *law* beyond the cognizance of experience must be as certainly rejected, on the principle of the argument, as a presumed *miracle* beyond that cognizance. It places the presumed *law* and the presumed *miracle* on exactly the same level. But there is a palpable flaw in the anti-miracle argument. It does not prove that miracles *may not have taken place*, but that miracles, whether they have taken place or no, are *not to be credited*, and this simply because they *are* miracles, *i.e.*, violations of the established laws of nature. And if it be possible for events to take place which man, on certain principles, is imperatively required not to credit, these principles must, of course, serve merely to establish a discrepancy between the actual *state* of things, and what is to be *believed* regarding it. And thus, instead of serving purposes of truth, they are made to subserve purposes of error; for the existence of truth in the mind is neither more nor less than the existence of certain conceptions and beliefs, adequately representative of what actually *is*, or what really *has taken place*.

I cannot better illustrate this direct tendency of the anti-miracle argument to destroy truth in the mind, by bringing the mental beliefs into a state of nonconformity with the possible and actual, than by a quotation from La Place himself. "We would not," he says, "give credit to a man who would affirm that he saw a hundred dice thrown in the air, and that they all fell on the same faces. If we had ourselves

been spectators of such an event, we would not believe our own eyes till we had scrupulously examined all the circumstances, and assured ourselves that there was no trick or deception. After such an examination, we would not hesitate to admit it, notwithstanding its great improbability; and no one would have recourse to an inversion of the laws of vision in order to account for it." Now, here is the principle broadly laid down, that it is impossible to communicate by the evidence of testimony, belief in an event which *might* happen, and which, if it happened, *ought* on certain conditions to be credited. No one knew better than La Place himself, that the *possibility* of the event which he instanced could be represented with the utmost exactitude by figures. The probability, in throwing a single die, that the ace will be presented on its upper face, is as one in six—six being the entire number of sides which the cube can possibly present, and the side with the ace being one of these—the probability that in throwing a *pair* of dice the aces of both will be at once presented on their upper faces is as one in thirty-six, as against the one sixth chance of the ace being presented by the one, there are also six chances that the ace of the other should not concur with it; and in throwing *three* dice, the probability that their three aces should be at once presented is, of course, on the same principle, as one in six times thirty-six, or, in other words, as one in two hundred and sixteen. And thus, in ascertaining the exact degree of probability of the hundred aces at once turning up, we have to go on multiplying by six, for each die we add to the number, the product of the immediately previous calculation. Unquestionably, the number of chances *against*, thus balanced with the single chance *for*, would be very great; but its existence as a definite number would establish, with all the force of arithmetical demonstration, the *possibility* of the event; and if an eternity were to

be devoted to the throwing into the air of the hundred dice, it would occur an *infinite number of times*. And yet the principle of Hume and La Place forms, when adopted, an impassable gulf between this possibility and human belief. The possibility might be embodied, as we see, in an actual occurrence—an occurrence witnessed by hundreds; and yet the anti-miracle argument, as illustrated by La Place, would cut off all communication regarding it between these hundreds of witnesses, however unexceptionable their character as such, and the rest of mankind. The principle, instead of giving us a right rule through which the beliefs in the mind are to be rendered correspondent with the reality of things, goes merely to establish a certain imperfection of transmission from one mind to another, in consequence of which, realities in fact, if very extraordinary ones, could not possibly be received as objects of belief, nor the mental appreciation of things be rendered adequately concurrent with the state in which the things really existed.

Nor is the case different when, for a *possibility* which the arithmetician can represent by figures, we substitute the *miracle* proper. Neither Hume or La Place ever attempted to show that miracles could not take place; they merely directed their argument against a belief in them. The wildest sceptic must admit, if in any degree a reasonable man, that there *may* exist a God, and that that God *may* have given laws to nature. No *demonstration* of the non-existence of a Great First Cause has been ever yet attempted, nor, until the knowledge of some sceptic extends over all space, ever *can* be rationally attempted. Merely to *doubt* the fact of God's existence, and to give reasons for the doubt, must till then form the highest achievements of scepticism. And the God who *may* thus exist, and who *may* have given laws to nature, *may* also have revealed himself to man, and, in order to secure



man's reasonable belief in the reality of the revelation, *may* have temporarily suspended in its operation some great natural law, and have thus shown himself to be its Author and Master. Such seems to be the philosophy of miracles; which are thus evidently not only *not* impossibilities, but even not *improbabilities*. Even were we to permit the sceptic himself to fix the numbers representative of those several *ways* in the case which I have just repeated, the chances against them, so to speak, would be less by many thousand times than the chances against the hundred dice of La Place's illustration all turning up aces. The existence of a Great First Cause is at least as probable—the sceptic himself being judge in the matter—as the *non*-existence of a Great First Cause: and so the probability in this first stage of the argument, instead of being, as in the case of the single die, only one to six, is as one to one. Again—in accordance with an expectation so general among the human family as to form one of the great instincts of our nature—an instinct to which every form of religion, true or false, bears evidence—it is in no degree less probable that this God should have revealed himself to man, than that he should *not* have revealed himself to man; and here the chances are again as one to one—not, as in the second stage of the calculation on the dice, as one to thirty-six. Nor, in the third and last stage, is it less probable that God, in revealing himself to man, should have given miraculous evidence of the truth of the revelation, so that man “might believe in Him for His work's sake,” than that He should *not* have done so; and here yet again the chances are as one to one—not as one to two hundred and sixteen. No rational sceptic could fix the chances lower; nay, no rational sceptic, so far as the *existence* of a Great First Cause is concerned, would be inclined to fix them so low: and yet it is in order to annihilate all belief in a possibility against which the



chances are so few as to be represented—scepticism itself being the actuary in the case—by three units, that Hume and La Place have framed their argument. Miracles *may* have taken place—the probabilities against them, stated in their most extreme and exaggerated form, are by no means many or strong; but we are nevertheless not to believe that they *did* take place simply because miracles they were. Now, the effect of the establishment of a principle such as this would be simply, I repeat, the destruction of the ability of transmitting certain beliefs, however well founded originally, from one set or generation of men to another. These beliefs the first set or generation might, on La Place's own principles, be compelled to entertain. The evidence of the senses, however wonderful the event which they certified, is not, he himself tells us, to be resisted. But the conviction which, on one set of principles, these men were on no account to resist, the men that came immediately after them were, on quite another set of principles, on no account to entertain. And thus the anti-miracle argument, instead of leading, as all true philosophy ought, to an exact correspondence between the realities of things and the convictions received by the mind regarding them, palpably forms a bar to the reception of beliefs, adequate to the possibilities of actual occurrence or event, and so constitutes an imperfection or flaw in the mental economy, instead of working an improvement. And, in accordance with this view, we find that in the economy of minds of the very highest order this imperfection or flaw has had no place. Locke studied and wrote upon the subject of miracles proper, and exhibited in his *Discourse* all the profundity of his extraordinary mind; and yet Locke was a believer. Newton studied and wrote on the subject of miracles of another kind—those of prophecy; and he also, as shown by his *Observations on the Prophecies of Daniel and the*

*Apocalypse*, was a believer. Butler studied and wrote on the subject of miracles, chiefly in connection with *Miraculous Revelation*; and he also was a believer. Chalmers studied and wrote on the subject of miracles in his *Evidences*, after Hume, La Place, and Playfair had all promulgated their peculiar views regarding it; and he also was a believer. And in none of the truly distinguished men of the present day, though all intimately acquainted with the anti-miracle argument, is this flaw or imperfection found to exist: on the contrary, they all hold, as becomes the philosophic intellect and character, that whatever is possible may occur, and that whatever occurs ought, on the proper evidence, to be believed.

But though the experience argument is of no real force, and, as shown by the beliefs of the higher order of minds, of no real effect, when brought to bear against miracles supported by the proper testimony, *it is* of great force and effect when brought to bear, not against *miracles*, but against some presumed *law*. It is experience, and experience only, that determines what is or is not law; and it is law, and law only, that constitutes the subject-matter of ordinary experience. Experience, in determining what is really miracle, does so simply through its positive knowledge of law: by knowing law, it knows also what would be a violation of it. And so miracle cannot possibly form the subject-matter of experience in the sense of Hume. For did miracle constitute the subject-matter of experience, the law of which the miracle was a violation *could not*; most emphatically, in this case, were there "no law" there could be "no transgression;" and so experience would be unable to recognise, not only the existence of the law transgressed, but also of the miracle, in its character as such, which was a transgression of the law. We determine from experience that there exists a certain fixed law, known among men as the law of gravitation; and that,

in consequence of this law, if a human creature attempt standing upon the sea, he will sink into it; or if he attempt rising from the earth into the heavens, he will remain fixed to the spot on which the attempt is made. Such, in these cases, would be the direct effects of this gravitation *law*; and any presumed law antagonistic in its character could not be other than a law contrary to that invariable experience by which the existence of the real law in the case is determined. But certain it is—for the evidence regarding the facts cannot be resisted, and by the greater minds has not been resisted—that a man *did* once walk upon the sea without sinking into it, and *did* once ascend from the earth into the sky; and these *miracles* ought not to be tested—and by earnest inquirers after truth really never have been tested—by an experience of the uniformity of the law of which they were professed transgressions, seeing it was essentially and obviously necessary that, in order to serve the great moral purpose which God intended by them, the law which they violated should have been a uniform law, and that they should have been palpable violations of it. But while the experience argument is thus of no value when directed against well-attested *miracle*, it is, as I have said, all-potent when directed against presumed *law*. Of law we know nothing, I repeat, except when experience tells us. A miracle contrary to experience in the sense of Hume is simply a miracle; a presumed law contrary to experience is no law at all. For it is from experience, and experience only, that we know anything of natural law. The argument of Hume and La Place is perfect, as such, when directed against the development visions of the Lamarckian.—(*Footprints of the Creator.*)

---

## XXVII

## THE OCEAN

WAS it the sound of the distant surf that was in mine ears, or the low moan of the breeze, as it crept through the neighbouring wood? Oh, that hoarse voice of Ocean, never silent since time first began—where has it not been uttered! There is stillness amid the calm of the arid and rainless desert, where no spring rises and no streamlet flows, and the long caravan plies its weary march amid the blinding glare of the sand, and the red unshaded rays of the fierce sun. But once and again, and yet again, has the roar of Ocean been there. It is *his* sands that the winds heap up; and it is the skeleton remains of his vassals—shells, and fish, and the stony coral—that the rocks underneath enclose. There is silence on the tall mountain peak with its glittering mantle of snow, where the panting lungs labour to inhale the thin bleak air—where no insect murmurs and no bird flies, and where the eye wanders over multitudinous hill-tops that lie far beneath, and vast dark forests that sweep on to the distant horizon, and along long hollow valleys where the great rivers begin. And yet once and again, and yet again, has the roar of Ocean been there. The effigies of his more ancient denizens we find sculptured on the crags, where they jut from beneath the ice into the mist-wreath; and his later beaches, stage beyond stage, terrace the descending slopes. Where has the great destroyer not been—the devourer of continents—the blue foaming dragon, whose vocation it is to eat up the land? His ice-floes have alike furrowed the flat steppes of Siberia and the rocky flanks of Schiehallion; and

his nummulites<sup>1</sup> and fish lie embedded in great stones of the pyramids, hewn in the times of the old Pharaohs, and in rocky folds of Lebanon still untouched by the tool. So long as Ocean exists there must be disintegration, dilapidation, change: and should the time ever arrive when the elevatory agencies, motionless and chill, shall sleep within their profound depths, to awaken no more—and should the sea still continue to impel its currents and to roll its waves—every continent and island would at length disappear, and again, as of old, “when the fountains of the great deep were broken up,”

“A shoreless ocean tumble round the globe.”

—(*First Impressions of England.*)

<sup>1</sup> A low form of marine creature which encases itself in carbonate of lime (*Foramenifera*). The coin-like (*nummus*, a coin) impression of the shell gives the name. Its remains form a very massive limestone.

---

## XXVIII

### THE COAL MEASURES

[The conditions under which the coal was laid down are still matter of some dispute. On the one hand it is held that the beds occupy the sites of the forests of evergreens which supplied the material, and that the land was subjected to intermittent subsidence. This is the view worked upon by Miller, and it still prevails. Some, however, hold that the deposits represent material brought down from the land by rivers and deposited in their estuaries. This certainly seems to be true of some coals. The following descriptions are intended solely for the Carboniferous Period to which coal in the main belongs.]

THE Coal Measures of Scotland occupy about two thousand square miles of surface, and, though much overflowed by igneous rock, and occasionally broken through by patches of Old Red Sandstone, run diagonally across the country, from sea to sea, in a tolerably well-defined belt, nearly parallel to the line of the southern flank of the Grampians. Throughout their entire extent they owe their scenic peculiarities to the trap; but where least disturbed, as in the Dalkeith coal-field, they are of an inconspicuous, low-featured character, and chiefly remarkable for their rich fields, as to the east of Edinburgh, between the Arthur Seat group of hills and the Garleton hills near Haddington; or for their romantic dells and soft pastoral valleys, such as Dryden Dell, or the valley of Lasswade, or to enumerate two other well-known representative localities in one stanza, borrowed from Macneil<sup>1</sup>—

“ Roslin’s gowany braes sae bonny,  
Craggs and water, woods and glen;  
Roslin’s banks, unpeer’d by ony,  
Save the Muse’s, Hawthornden.”

The coal-fields owe some of their more characteristic features, especially in the sister kingdom, to man. The tall chimneys, ever belching out smoke; the thickly-sown engine-houses, with the ever-recurring clank of the engines, and the slow-measured motion of their outstretched arms seen far against the sky; the involved fretwork of railways, connected with some main arterial branch, along which the traveller ever and anon marks the frequent train sweeping by, laden with coals for the distant city; the long flat lines of low cottages, the homes of the poor colliers; and here and there, where the ironstone bands occur, a group of smelting furnaces;—all serve to mark the Coal Measures, and to distinguish them

<sup>1</sup> *Macneil*. Hector Macneill (1746–1818), still remembered for his songs, such as “My boy Tammy,” etc.



from every other system. And such—striking off the peculiarities of the trap, which has so necessary connexion with the Carboniferous system, but is common, in some one part of the world or another, to all the systems—are some of the features, natural and superinduced, of this most important, in an economic point of view, of all the geologic formations. They are, as I have said, of no very prominent character. The poet Delta<sup>1</sup> describes, in a fine stanza, the scenery around and to the east of Edinburgh. But though the area which the landscape includes contains one of our most considerable coal-basins—a basin many square miles in extent—it does not furnish him with a single descriptive reference. Almost all those bolder and more characteristic features of the scene which his pencil exquisitely touches and relieves, it owes to the igneous rocks :

“ Traced in a map the landscape lies,  
 In cultured beauty stretching wide ;  
 There Pentland's green acclivities ;  
 There ocean with its azure tide ;  
 There Arthur Seat, and, gleaming through  
 Thy southern wing, Dunedin blue ;  
 While in the orient, Lammer's daughters,  
 A distant giant range, are seen ;  
 North Berwick Law with cone of green,  
 And Bass amid the waters.”

The ancient scenery of the Coal Measures would be greatly more difficult to trace. As we recede among the extinct creations farther and farther from the present time, the forms become more strange, and less reduceable to those compartments to which we assign known classes and existing types. Our more solid principles of classification desert us, and we are content to substitute instead, remote analogies and distant resemblances. We say of one family of plants that they

<sup>1</sup> *Delta*. David Macbeth Moir (1798–1851), novelist and poet.

somewhat resemble club-mosses, shot up in bulk and height into forest trees; and of another family, that they would be not very unlike the horsetails of our morasses, did horsetails rival in size larches of some twenty or thirty years' growth. In referring to yet other families, we can avail ourselves—so *outré* are their forms—of no resemblance at all: we can simply figure and describe, and draw our illustrative comparisons, if we employ such, rather from the departments of art than of nature. It is possible that, were some of our higher botanists—our Balfours, Browns, and Grevilles—permitted to range for a day over the broad plains of Jupiter, or amid the bright sunshiny vales of Mercury or Venus, even *they* might be but able to tell us, on their return, of gorgeous floras, that defied all their old rules of classification, and which could be illustrated from that of our own planet only by distant resemblances and remote analogies. And assuredly such would be the case, could they, through the exercise of some clairvoyant faculty, be enabled to journey for millions and millions of years into the remote past, and to spend a few enchanted hours amid the dense and sombre thickets of a Carboniferous forest. Shall I venture on communicating to this audience a snatch of personal history, illustrative of the mode in which I myself arrived, many years ago, at my earliest formed conceptions regarding the old flora of the Coal Measures?

The first perusal of *Gulliver's Travels* forms an era in the life of a boy, if the work come in his way at the right time; and I was fortunate enough to secure my first reading of it at the mature age of eight years. For weeks, months, years after, my imagination was filled with the little men and little women, and with at least one scene laid in the country of the very tall men—the scene in which Gulliver, after wandering amid grass that rose twenty feet over his head, lost himself

in a vast thicket of barley forty feet high. I became the owner, in fancy, of a colony of little men: I had little men for inhabiting the little houses which I built, for tilling my apron-breadth of a garden, and for sailing my little ship; and, coupling with the men of Lilliput the scene in Brobdingnag, I often set myself to imagine, when playing truant all alone on the solitary slopes or amid the rocky dells of Drieminorie,<sup>1</sup> how the little creatures, who were sure always to accompany me on these occasions, would be impressed by the surrounding vignette-like scenes and mere picturesque productions, exaggerated on hill or in hollow, by their own minuteness, into great size. I have imagined them treading their way through dark and lofty forests of bracken fifty feet high, or admiring on the hill-side some enormous club-moss, that stretched out its green hairy arms over the soil for whole roods, or arrested at the edge of some dangerous and dreary morass by hedges of gigantic horsetail, that bore atop their many-windowed, club-like cones, twenty feet over the dank surface, and that shot forth at every joint their green verticillate leaves in rings huge as coach-wheels. And while I thus thought, or rather dreamed, for my Lilliputian companions, I became for the time a Lilliputian myself—saw the minute in nature as if through a magnifying-glass—roamed in fancy under ferns that had shot up into trees—and saw the dark cones of the Equisetaceæ stand up over their spiky branches some six yards or so above head. But these day-visions belonged to an early period: dreams at least of a severer, if not more solid cast, dispossessed the little men and women of the place they had occupied; and I had learned to think of the wondrous tale of Swift as one of the most powerful but least genial of all the satires which the errors and

<sup>1</sup> *Drieminorie*. The hill slope of the North Sutor, above the town of Cromarty.

perversions of poor human nature have ever provoked, when in the year 1824 I formed my first practical acquaintance with the flora of the Coal Measures. I was engaged as a stone-cutter, a few miles from Edinburgh, in making some additions in the old English style to an ancient mansion-house; and the stone in which I wrought—a curiously variegated sandstone derived from a quarry since shut up—was, I soon found, exceedingly rich in organic casts and impressions. They were exclusively vegetable. Often have I detected in the rude block placed before me, to be fashioned into some moulded transom or carved mullion, fragments of a sculpture which I might in vain attempt to rival—the forked stems of *Lepidodendra*,<sup>1</sup> fretted into scales that, save for their greater delicacy and beauty, might have reminded the antiquary of the sculptured corslet of scale armour on the effigies of some ancient knight; the straight-stemmed *Calamite*,<sup>2</sup> fluted from joint to joint, like the shaft of some miniature column of the Grecian Doric; the *Sigillaria*, also a fluted column, but of more meretricious school than that of Greece, for it was richly carved between the flutings; the *Stigmara*,<sup>3</sup> fretted over, with its eye-let holes curiously connected by delicately-waved lines; and occasionally the elaborately ornate *Ulodendron*,<sup>4</sup> with its rows of circular scars, that seem to have been subjected to the lathe of an ornamental turner, and its general surface fretted over with

<sup>1</sup> *Lepidodendra*. The “club-moss”-like trees. The scales mark where the long, pointed leaves were attached to the stem.

<sup>2</sup> *Calamite*. The tree represented by the modern “horsetails.” The “flutings” are those of the stem, the bark having generally disappeared.

<sup>3</sup> *Stigmara*. Not a tree. See note further on.

<sup>4</sup> *Ulodendron*. Now known to be not a tree, but the cone-bearing branch of species of *Lepidodendron*, and probably also of *Sigillaria*. The “scars” show where the cones were attached.

what seemed to be nicely sculptured leaves, such as we sometimes see on a Corinthian torus. It was not easy, more than a quarter of a century ago, when Sir Roderick Murchison was still an officer of dragoons, Sir Charles Lyell prosecuting the study of English law, and Dr. Buckland still engaged in his theory of the Flood, which he had given to the world only the previous year—it was not easy, I say, far a working man to have such questions solved as these fossils of the Coal Measures served to raise. But they *were* at length in some measure solved. I was taught to look to those forms of its flora during the Carboniferous period. And, strange to tell, I found I had just to fall back on my juvenile imaginings, and to form my first approximate conceptions of the forest of the Coal Measures by learning to look at our ferns, club-mosses, and equisetaceæ, with the eye of some wondering traveller of Lilliput lost amid their entanglements, like Gulliver among those of the fields of Brobdingnag. When sauntering, after the work of the day was over, along the edge of some wood-embosomed streamlet, where the horse-tail rose thick and rank in the darker hollows, and the fern shot out its fronds from the drier banks, I had to sink in fancy, as of old, into a mannikin of a few inches, and to see intertropical jungles in the tangled grasses and thickly interlaced equisetaceæ, and the tall trees in the herbaceous plants and the shrubs.

But many a wanting feature had to be supplied, and many an existing one altered. Amid forests of arboraceous ferns, tall as our second-class trees, there stood up gigantic club-mosses, thicker than a body of a man, and from sixty to eighty feet in height; more than a hundred and fifty species of smaller ferns, and about one-third that number of smaller species of club-mosses, clothed the opener country; and along



the frequent marches and lakes that covered vast tracts of its flat surface, or the sluggish rivers that winded through it, there flourished huge thickets of equisetaceæ, of from twelve to fourteen different species, tall, some of them, as the masts of pinnaces, and thick and impenetrable as the fairy hedge that surrounded the palace of the Sleeping Beauty. But among these forms of the vegetable world, that, at least through the blue steaming vapour of so dank a land, seem but the more familiar forms of our lochans and hill-sides many times magnified, there arise strange floral shapes, among which we can recognise no existing type. The *Ulodendron*, bearing along its carved trunk, on two of its sides, rectilinear strips of cones, like rows of buttons on the dress of a boy, and the ornately tattooed *Sigillaria*, lined longitudinally, and with its thickly-planted vertical rows of leaves bristling from its stem and larger bows, resemble no vegetable productions which the earth now yields. The landscape, too, has its intertropical forms—what seem gigantic Cacti, with thickets of canes, and a few species of palms. And, where here and there a flat hillock rises a few yards over the general level, we see groups of noble *Araucarians* raising their green tops a hundred and fifty feet over the plain. And yet, rich as the flora of the period may seem in individuals, and though it cumbers the soil with a luxuriance witnessed in our own times only among the minuter forms, it is, in all save size and bulk, a poor and low flora after all. The Pines and *Araucarians* form its only forest-trees. We fail to meet on its plains a single dicotyledonous plant on which a herbivorous mammal could browse. Its *Lycopodiaceæ*<sup>1</sup> are covered over with catkin-like cones; there are cones on its *Ulodendra*, cones on its *Equisetaceæ*, cones on its

<sup>1</sup> *Lycopodiaceæ*. The club-mosses.



Araucarians, cones on its Pines; but not a single fruit have we yet found good for the use of man. Nor, after the first impression of novelty has passed away, is there much even to gratify the sight. The marvel of ornately-carved trunks and well-balanced fronds soon palls on the sense; and the prevalence of those spiky rectilinear forms in the scene which Wordsworth could regard as such deformities in landscape, and which James Grahame<sup>1</sup> so deprecates in his *Georgics*, "lies like a load on the weary eye." Nature labours in the production of huge immaturities; neither man the monarch, nor his higher subjects the mammals, have yet appeared; and it is all too palpable that the garden has not yet been planted, out of the ground of which there shall grow "every tree that is pleasant to the sight and good for food."

Some of the gigantic forms of these primeval forests we can only vaguely and imperfectly illustrate by the dwarf productions of our present moors and morasses; and some of them we fail to connect, by the links of general resemblance, with aught in the vegetable kingdom that now lives. Regarded as a whole, the flora of the Carboniferous age seems as remote in its analogues from that which now exists, as remote in the period during which it flourished. There are, however, at least two families of plants which bear, not a loose and general, but a minute and thorough resemblance, to families which also existed during the great Secondary and Tertiary periods, and which still continue to occupy a large space among the recent vegetable forms. And these are the Fern and Pine families. All the species have become extinct over and over again; but the families, and many of the genera, are ever reproduced; and, so far as we know, this

<sup>1</sup> James Grahame (1765-1811), advocate, a commonplace writer of blank verse of the "poetic diction" type.

earth never possessed a terrestrial flora that had not its ferns and its pines. In all the other divisions and classes of the organic world there are also favourite families, such as the Tortoises among reptiles, the Cestracions<sup>1</sup> among fishes, the Nautilus among Cephalopods,<sup>2</sup> and the Terebratula<sup>3</sup> among Brachipods. There are few geologic formations in which either the remains or the footprints of tortoises have not been detected; there seems never to have been an ocean that had not its cestracion; the nautilus lived in every age from the times of the Lower Silurian deposits down to the present day; and, after disinterring specimens of fossil terebratula from our Grauwackes,<sup>4</sup> our Mountain Limestones, our Oolites,<sup>5</sup> and our Chalk Flints, we may cast the drag in the deeper lochs of the Western Highlands, and bring up the living animals, fast anchored by their fleshly cables to stones and shells. We can scarce glance over a group of fossils of the two earlier divisions, the Secondary and Palæozoic, which we do not find divisible into two classes of types—the types which still remain, and the types which have disappeared. But why the one set of forms should have been so repeatedly called into being, while the other set was suffered to become obsolete, we cannot so much as surmise. In visiting some

<sup>1</sup> *Cestracions*. Represented by the Port-Jackson shark.

<sup>2</sup> *Cephalopods*. Cuttle-fishes, squids, etc.

<sup>3</sup> *Terebratula*. A still living species of the *Brachiopoda*, which furnish the familiar “lamp-shells.” They were much more abundant in geologic times.

<sup>4</sup> *Grauwacke* or *Greywacke*. A sandstone-like rock, only darker from a larger proportion of other minerals than quartz, the chief element in sand, and tougher. It is the chief rock in the *Silurian System*, which contains the oldest traces of organic life yet found.

<sup>5</sup> *Oolites*. A granular limestone, resembling the roe of fish (*Gr. oon*: an egg), abundant in England. See later section.

old family library that has received no accession to its catalogue for perhaps more than a century, one is interested in marking its more vivacious classes of works—its Shakespeares, Robinson Crusoes, and Pilgrim's Progresses—in their first, or at least earlier editions, ranged side by side with obsolete, long-forgotten volumes, their contemporaries, with whose unfamiliar titles we cannot connect a single association. And exactly such is the class of facts with which the geologist is called on to deal. He finds an immense multiplication of editions in the case of some particular type of fish, plant, or shell; and in the case of other types, no after instances of republication, or republication in merely a few restricted instances, and during a limited term. But while it is always easy to say why, in the race of editions, the one class of writings should have been arrested at the starting-post, and the other class should go down to be contemporary with every after production of authorship until the cultivation of letters shall have ceased, the geologist finds himself wholly unable to lay hold of any critical canon through which to determine why, in the organic world, one class of types should be so often republished, and another so peremptorily suppressed. This far, however, we may venture to infer, from finding the two classes under such a marked diversity of dispensation, that creation must have been a result, not of the operation of mere law, which would have dealt after the same fashion with both, but a consequence of the exercise of an elective will; and that as amid immense variety of effort and fertility of invention there are yet certain features of style, and a certain recurrence of words and phrases, that enable us to identify a great author, and to recognise a unity in his works that bespeaks the unity of the producing mind, so ought these connecting links and common features of widely-separated, and in the main dissimilar creations, to teach us

the salutary lesson that the Author of all is One, and that, in the exercise of His unrestricted sovereignty and of His infinite wisdom, He chooses and rejects according to His own good pleasure.<sup>1</sup>

From the plants of the swamps and forests of the Coal Measures we pass on to its fauna, terrestrial and aquatic—a fauna which, although less picturesque than its wondrous flora, filled with all manner of strange shapes, seems to have borne a corresponding character in uniting great numeric development to a development comparatively limited in classes and orders; and with respect also to the extreme antiqueness of many of its types. The prevailing forms of both flora and fauna belong equally to a fashion that has perished and passed away.

It was held, up till a very recent period, that there had existed no reptiles during the Carboniferous ages. Man has been longer and more perseveringly engaged among the Coal Measures than in any of the other formations; and, long ere geology existed as a science, what used to be termed its figured stones—plants, shells, and fishes—were, in consequence, well known to *collectors*—a class of people sent into the world to labour instinctively as pioneers in the physical sciences, without knowing why. I have seen prints of some of these figured stones of two centuries' standing, and have succeed in recognising as old acquaintance the *Spirifers*<sup>2</sup> and Ferns which had sat for their pictures to artists who knew nothing of either. During the last sixty years there have been many collections made of the Carboniferous fossils, and many coal-fields intelligently examined, but not a trace of

<sup>1</sup> *Pleasure*. This is Miller's Calvinism applied to geology. Evolution is necessarily a process of "selection." Unadaptable forms perish.

<sup>2</sup> *Spirifer*. A genus of Brachiopods (see note, p. 245). They have a curious internal structure of twin-spiral coils.

the reptile<sup>1</sup> detected. It was not until Sir Charles Lyell's second visit to the United States, five years ago, or rather, not until the publication of his second series of travels, three years after, that it was known to European geologists that the coal-fields of Pennsylvania, in the United States, had, like the Trias of the south of Scotland, and of the sister kingdom, their Cheirotherium, of, however, not only, as might be anticipated, a different species, but of even a different genus, from that of the newer formation, though not less decidedly reptilian in its character. And about the same time the remains of a reptile since known as the Archegosaurus were found in a coal-field in Rhenish Bavaria. The Archegosaurus seems to have been a strange-looking creature—half-saurian, half-batrachian, of comparatively small size, with two staring eyes set close together in the middle of a flat triangular skull, and furnished with limbs terminating in distinct toes, but so slim and weak, "that they could have served," says Von Meyer, "only for swimming or creeping." It is stated in the *Lake Superior* of Agassiz, that in a shallow expanse of the river into which the lake falls, skirted by flat forest-covered banks, and in which a long series of dreary mud-flats are covered by from a few inches to a few feet of water, there occurs a large gill-furnished salamander (*Monobranchus*), which the Indians call the "walking fish," and which even to them is a great curiosity. It swims wherever there is sufficient depth of water, and creeps over the mud-flats where there is not; and, compared with the swift and powerful *Lepidosteus*, a reptile-fish of the same stream, it is

<sup>1</sup> *Reptile*. The chief Carboniferous vertebrates, such as those here mentioned, are to be classed not as true Reptiles but as *Amphibia*, creatures allied to frogs, newts, etc. They form the extinct order of *Labyrinthodontia*, so called from the labyrinthine structure of their teeth. They resembled in shape and size large alligators.

a stupid, sluggish, inert creature, safe only in its uselessness and the repulsiveness of its appearance. And, judging from the feebleness of its limbs, and the shortness of its ribs, which resemble, says Professor Owen, those of the half-lunged, half-gilled *Proteus*,<sup>1</sup> such seems to have been the character of the *Archegosaurus*. Its contemporary, the American *Cheirotherium*, as shown by its well-defined footprints, must have been a strong-limbed and larger reptile—a batrachian strengthened by a dash of the crocodile; and, though probably often a dweller in the water, the only vestiges of it which remain show that it must have occasionally stepped out of its river or lake, to take an airing on the banks. Such is nearly the sum-total of our knowledge regarding the reptiles of the Carboniferous period. Like mammals in the preceding Secondary ages, they formed so inconspicuous a feature of the fauna of the time, that until very recently it escaped notice, and so was not recognised as a feature at all. So far as we yet know, the great Secondary division, in which reptiles, both in size and number, received their fullest development, had but few genera of mammals—a small pouched animal, and small insectivorous ones: so far as we yet know, the great Palæozoic division, in which fishes, both in size and number, received their fullest development, had but its two genera of reptiles, both allied, apparently, to the humble batrachian order. The reigning dynasty of the one period, though the mammal was present, was not that of the mammal, but of the reptile: the reigning dynasty of the other period, though the reptile was present, was not that of the reptile, but of the fish.

The fishes of the Coal Measures, in especial the reptile fishes, were in truth very high types of their class. I have

<sup>1</sup> *Proteus*. A tailed, eyeless amphibian, about a foot long, inhabiting certain caves.



already incidentally said, that with the humble Monobranchus or salamander of the great North American lakes and their tributaries, there is a true reptile fish associated—an order of creatures of which, so far as is yet known, there exists in the present creation only a single genus. It would almost seem as if the Lepidosteus had been spared, amid the wreck of genera and species, to serve us as a key by which to unlock the marvels of the ichthyology of those remote periods of geologic history appropriated to the dynasty of the fish. This wonderful creature is covered by scales, not of a horny substance, like those of the fish common at our tables, but of solid bone, enamelled, like the human teeth, on their outer surfaces. Its own teeth are planted in double rows of unequal size, the larger being of a reptilean, the smaller of an ichthyic character; and the front teeth of the lower jaw are received, as in the alligator, into sheath-like cavities in the upper jaw—another reptilian trait. Its vertebral column, wholly unlike that of other fishes, each of whose vertebræ consists of a double cup, is formed of vertebræ one end of which consists of a cup and another of a ball—a characteristic of the snake: it possesses true gills, like all other fishes; but then it also possesses a peculiar form of cellular air-bladder, opening into the throat by a glottis, which, according to Agassiz, our highest authority, performs respiratory functions. The Lepidosteus, says Sir Charles Lyell, in describing, in his second series of travels in the United States, an individual which he had seen in sailing across Lake Solitary, leap like a trout or salmon over the surface, in pursuit of its prey—"the Lepidosteus, whose hard shining scales are so strong and difficult to pierce that it can scarcely be shot, can live longer out of water than any other fish of the United States, having a large cellular swimming-bladder, which is said almost to serve the purpose of a real lung." Further, we find Agassiz

stating, in his *Lake Superior*, that the *Lepidosteus* is one of the swiftest of fishes, darting like an arrow through the waters, and overcoming with facility even the rapids of the Niagara. He adds further, that when at the latter place, there was a living specimen caught for him—the first living specimen he had ever seen; and that “to his great delight, as well as to his utter astonishment, he saw this fish moving its head upon its neck freely, right and left, and upwards, as a saurian, and as no other fish in creation does.” The true native Yankee has a mode wholly his own, and somewhat redolent of the revolver and the bowie-knife, of describing the peculiar immunities and high standing of the *Lepidosteus*, or, as he familiarly terms it, the gar-pike. “The gar-pike is,” he says, “a happy fellow, and beats all fish-creation: he can hurt everything, and nothing can hurt him.” And such is the living type of what was the prevailing and dominant family of the fauna of the Coal Measures.

The great size and marvellous abundance of those reptile fishes of the Carboniferous period may well excite wonder. One ironstone band in the neighbourhood of Gilmerton has furnished by scores, during the last few years, jaws of the *Rhizodus Hibberti* and its congeners, of a mould so gigantic, that the reptile teeth which they contain are many times more bulky than the teeth of the largest crocodiles. Teeth and scales of the same genus are also abundant among the limestones of Burdiehouse;—some of the teeth much worn, as if they had belonged to very old individuals; and some of the scales, which were as largely imbricated as those of the haddock or salmon, full five inches in diameter. The broken remains of a Burdiehouse specimen now in the museum of the Royal Society of Edinburgh are supposed by Agassiz to have formed part of one of the largest of true fishes—a fish which might be appropriately described in the

sublime language applied in Job to Leviathan. If the gar-pike, a fish from three to four feet in length, can make itself so formidable, from its great strength and activity, and the excellence of its armour, that even the cattle and horses that come to drink at the water's side are scarce safe from its attacks, what must have been the character of a fish of the same reptilian order from thirty to forty feet in length, furnished with teeth thrice larger than those of the hugest alligator, and ten times larger than those of the bulkiest *Lepidosteus*, and that was covered from snout to tail with an impenetrable mail of enamelled bone? "Canst thou play with Leviathan as with a bird? Canst thou fill his skin with barbed irons, or his head with fish-spears? Who can open the doors of his face? His teeth are terrible round about; his scales are his pride, shut up together as a close seal. In his neck remaineth strength; his heart is as firm as a stone, yea, as hard as a piece of the nether millstone. The sword of him that layeth at him cannot hold; the spear, the dart, nor the habergeon. He esteemeth iron as straw, and brass as rotten wood."

In the same waters as the formidable and gigantic *Holoptychian*<sup>1</sup> genus there lived a smaller but still very formidable reptile fish, now known as the *Megalichthys*—a fish whose body was covered with enamelled quadrangular scales, and its head with enamelled plates, both of so exquisite a polish that they may still be occasionally seen in the shale of a coal-pit, catching the rays of the sun, and reflecting them across the landscape, as is often done by bits of highly glazed earthenware or glass. It was accompanied by another and still smaller, but very handsome, and scarce less highly

<sup>1</sup> *Holoptychian*. The type *Holoptychius* is an extinct lung-fish covered with overlapping bony scales. The "quadrangular" scales gives a mosaic arrangement.

enamelled, genus of the sauroid class—the *Diplopterus*. And if, after the lapse of so many ages, their armour still retains a polish so high, we may be well assured that brightly must it have glittered to the sun when the creatures leaped of old into the air, like the *Lepidosteus* of Lake Solitary, after some vagrant ephemera or wandering dragon-fly; and brightly must the reflected light have flashed into the dark recesses of the old overhanging forest that rose thick and tangled over the lake or river side. The other ichthyic contemporaries of these fishes were very various in size and aspect. About half their number belonged to the same ganoidal or bone-covered order as the *Holoptychius* and *Megalichthys*, and the other half to that placoidal order represented in our existing seas by the sharks and rays. The lakes, rivers, and estuaries abounded, perhaps exclusively, in ganoids, such as the *Palæsniscus*, a small, handsome, well-proportioned genus, containing several species—the *Eurynotus*, a rather longer and deeper genus, formed somewhat in the proportions of the modern bream—and the *Acanthodes*, an elongated, spined, small-scaled genus, formed in the proportions of the ling or conger eel. On the other hand, the seas of the period, abundant also in ganoids, were tenanted by numerous and obsolete families of sharks, amply furnished both with razor-like teeth in their jaws for cutting, and millstone-like teeth on their palates for crushing—furnished, some of them, with barbed stings, like the sting-rays—and whose dorsal fins were armed with elaborately carved spines. The only representative of any of these genera of marine placoids which still exists is the *Cestracion*<sup>1</sup> or Port-Jackson shark, a placoid of the southern hemisphere.

<sup>1</sup> *Cestracion*. It alone of modern sharks possesses the pavement of palatal teeth.

We know that over the rivers and lakes inhabited by the ganoidal fishes of this period there fluttered several species of insects mounted on gauze wings, like the *Ephemeridæ*<sup>1</sup> of the present day. At least one of their number must have been of considerable size;—a single wing preserved in iron-stone, though not quite complete, is longer than the anterior wing of one of our largest dragon-flies, and about twice as broad; and, as its longitudinal nervures are crossed at nearly right angles by transverse ones, it must have resembled, when attached to the living animal, a piece of delicate network. In the woods, and among the decaying trunks, there harboured at the same time several species of snouted beetles, somewhat akin to the diamond beetles of the tropics; and with these, large many-eyed scorpions. The marshes abounded in minute crustaceans, of, however, a low order, that bore their gills attached to their feet, and breathed the more freely the more merrily they danced; and the seas contained the last of the trilobites. I have already referred incidentally to the shells. The fresh waters contained various forms of *Unio*, somewhat similar to the pearl mussels of our rivers; the profounder depths of the sea had their brachipods,<sup>2</sup>—*Spirifers* and *Producta*; while molluscs of a higher order—*Orthoceratites*,<sup>3</sup> some of them of gigantic size, *Nautilus*, and *Goniatite*, swam above. Corals of strange shapes were abundant: there were several species of *Tubilipora*, which more resembled the organ-pipe coral than

<sup>1</sup> *Ephemeridæ*. The May-fly.

<sup>2</sup> “Lamp shells.” They resemble molluscs in being bivalve, but have the shells placed roughly back and front of the animal, not right and left. They are very important geologically. *Productus* is a “lengthened” form. See notes on pp. 245, 247.

<sup>3</sup> *Orthoceratites*. A genus of *cephalopoda* or cuttle-fish with a straight chambered shell, often as thick as a man’s leg. *Goniatite* has a curved shell like the *Nautilus*.



aught else that still exists; with great numbers of a horn-shaped coral, *Turbinolia*, with its point turned downwards, like that of a *Cornucopia*, and with an animal somewhat akin to the sea-anemone, expanded, flower-like, from its upper end. With these, too, there were grouped delicately-branched corals, mottled with circular cells; and minutely elegant *Fenestrella*, that seemed reduced editions of the sea-fan. An antiquely-formed sea-urchin, whose spines were themselves roughened with minute spines, as the more delicate branches of a sweet brier are roughened with thorns, crept slowly among these zoophytes by its many cable-like tentacula; while forests of *Crinoidea* waved in the tide, and sent abroad their many arms from the ledges over-head. These forests of *Crinoidea* or stone-lilies formed one of the leading characteristics of the sea-bottoms of the period. We may conceive of them as thickets of flexible-jointed stems rooted to the rocks, and with a variously-formed star-fish fixed on the top of each stem. Some of the stems were branched, some simple; in some the petals or rays were richly palmated; in others, plain and star-like; in some, what might be deemed the calyx of the flower, but which was in reality the stomach of the animal, was round and polished; in others, ornately carved into regular geometrical figures. But however various in their appearances, they were all sedentary star-fishes, that, poised on their tall, cane-like stems, sent abroad their arms into the waters of the old Carboniferous ocean, in quest of food. The minute joints of the stem, perforated in the middle by a circular passage, and fretted by thick-set rays radiating from the centre, seem to have attracted notice in an early age, and are known in legendary lore as the beads of St. Cuthbert. Dr. Mantell states that he has found quantities of these perforated ossicula, which had been worn as ornaments, in tumuli of the ancient Britons. And you will



remember that in *Marmion*, the nuns of St. Hilda, who lived in a Liassic country rich in Ammonites, had their stories regarding the snakes which their sainted patroness had changed into stone; and that they were curious to know, in turn, from the nuns of Lindisfarne, who lived in a Carboniferous district, rich in encrinites, the true story of the beads of St. Cuthbert:

“ But fain St. Hilda’s nuns would learn,  
If on a rock by Lindisfarne  
St. Cuthbert sits, and toils to frame  
The sea-born beads that bear his name.  
Such tales had Whitby’s fishers told,  
And said they might his shape behold,  
And hear his anvil sound.  
A deadened clang, a huge dim form,  
Seen but and heard, when gathering storm  
And night were closing round.”

Certainly, if he fabricated all the beads, he must have been one of the busiest saints in the Calendar. So amazingly abundant were the lily encrinites of the Carboniferous period, that there are rocks in the neighbourhood of Edinburgh, of considerable thickness and great lateral extent, composed almost exclusively of their remains.

The depth of the Carboniferous system has been well described as enormous. Including the Mountain Limestone, which is a marine deposit of the same period, and which must be regarded as forming a member of the Coal Measures, there are districts in England in which, as estimated by Mantell, it has attained to the vast thickness of ten thousand feet. In our own immediate neighbourhood it does not, as estimated by a high authority, Mr. Charles M'Laren, quite equal half that depth. Our Carboniferous system, including the Roslin and Calciferous sandstones, he describes, in his *Geology of Fife and the Lothians*, as about four thousand

five hundred feet in thickness—a thickness, however, which more than equals the height of Ben Nevis over the level of the sea. That coal-basin which extends along the flat, richly cultivated plain which stretches from the south-eastern flanks of Arthur Seat to the Garleton Hills in Haddingtonshire, considerably exceeds three thousand feet in depth; and, could it be cleared out to the bottom of the Calciferous sandstones, and divested of the hundred and seventy beds of which it consists, as we have seen the deep hollow of the Compensation Pond divested of its water, it would form by far the profoundest valley in Scotland. Of the beds by which it is occupied, it is estimated that about thirty are coal, varying from several feet to but a few inches in thickness; and we now know, that though some of these coal-seams were formed of drifted plants and trees deposited in the sandy bottom of some great lake or inland sea, by much the greater number are interlaced by bands of an altered vegetable soil, thickly traversed by roots; and that, as in the case of many of our larger mosses, the plants which entered into their composition must have grown and decayed on the spot. And of course, when the plants were growing, the stratum in which they occur, though subsequently buried beneath plummet sound, or at least thousands of feet, must have formed a portion of the surface of the country either altogether sub-aërial, or, if existing as a swamp, overlaid by but a few inches of water. We have evidence of nearly the same kind in the ripple-markings which are so abundant throughout all the shales and sandstones of the Coal Measures from top to bottom, and which are never formed save where the water is shallow. Stratum after stratum in the whole ten thousand feet included in the system, where it is most largely developed, must have formed in succession the surface either of the dry land or of shallow lakes or seas; one bed must have sunk

ere the bed immediately over it could have been deposited ; and thus, throughout an extended series of ages, a process must have been taking place on the face of the globe somewhat analogous to that which takes place during a severe frost in those deeper lakes of the country that never freeze, and in which the surface stratum, in consequence of becoming heavier as it becomes colder than the nether strata, is for ever sinking, and thus making way for other strata, that cease to be the surface strata in turn. This sinking process, though persistent in the main, must have been of an intermittent and irregular kind. In some instances, forests seem to have grown on vast platforms, that retained their level unchanged for centuries, nay, thousands of years together : in other cases the submergence seems to have been sudden, and to such a depth that the sea rushed in and occupied wide areas where the land had previously been, and this to so considerable a depth, and for so extended a period, that the ridges of coral which formed, and the forests of *Encrinites* which grew, in these suddenly hollowed seas, composed thick beds of marine limestone, which we now find intercalated with coal-seams and lacustrine silts and shales. There seem, too, to have been occasioned upward movements on a small scale. The same area which had been occupied first by a forest, and then by a lake or sea, came to be occupied by a forest again ; and, though of course mere deposition might have silted up the lake or sea to the level of the water, it is not easy to conceive how, without positive upheaval for at least a few feet, such surfaces at the water-level should have become sufficiently consolidated for the production of gigantic *Araucarians* and *Pines*. But the sinking condition was a general one ; platform after platform disappeared, as century after century rolled away, impressing upon them their character as they

passed ; and so the Coal Measures, where deepest and most extensive, consist, from bottom to top, of these buried platforms, ranged like the sheets of a work in the course of printing, that, after being stamped by the pressman, are then placed horizontally over one another in a pile. Another remarkable circumstance, which seems a direct result of the same physical conditions of our planet as those ever-recurring subsidences, is the vast horizontal extent and persistency of these platforms. The Appalachian Coal formation in the United States has been traced by Professor Henry Rogers over an area considerably more extensive than that of all Great Britain ; and yet there are some of its beds that seem continuous throughout. The great Pittsburg coal-seam of this field—a seam wonderfully uniform in its thickness, of from eight to twelve feet—must have once covered a surface of ninety thousand square miles. And this characteristic of persistency, united to great extent, in the various platforms of the Coal Measures, and of ever-recurring subsidence and depression, which accumulated one surface platform over another for hundreds and thousands of feet, belong, I am compelled to hold, to a condition of things no longer witnessed on the face of the globe. The earth has still its morasses, its deltas, its dismal swamps ; it has still, too, its sudden subsidences of surface, by which tracts of forest have been laid under water ; but morasses and deltas cover only very limited tracts, and sudden subsidences are at once very exceptional and merely local occurrences. Subsidence during the Carboniferous ages, though interrupted by occasional periods of rest, and occasional paroxysms of upheaval, seems, on the contrary, to have been one of the fixed and calculable processes of nature ; and, from apparently the same cause, persistent swamps, and accumulations of vegetable matter, that equalled continents in their extent, formed one of the

common and ordinary features of the time.—(*Sketch Book of Popular Geology.*)

We have entered the Coal Measures. For seven formations together—from the Lower Silurian to the Upper Old Red Sandstone—our course has lain over oceans without a visible shore, though, like Columbus in his voyage of discovery, we have now and then found a little floating weed, to indicate the approaching coast. The water is fast shallowing. Yonder passes a broken branch, with the leaves still unwithered; and there floats a tuft of fern. Land, from the mast-head! land! land!—a low shore thickly covered with vegetation. Huge trees of wonderful form stand out far into the water. There seems no intervening beach. A thick hedge of reeds, tall as the masts of pinnaces, runs along the deeper bays, like water-flags at the edge of a lake. A river of vast volume comes rolling from the interior, darkening the water for leagues with its slime and mud, and bearing with it to the open sea, reeds, and fern, and cones of the pine, and immense floats of leaves, and now and then some bulky tree, undermined and uprooted by the current. We near the coast, and now enter the opening of the stream. A scarce penetrable phalanx of reeds, that attain to the height and well nigh the bulk of forest-trees, is ranged on either hand. The bright and glossy stems seem rodded like Gothic columns; the pointed leaves stand out green at every joint, tier above tier, each tier resembling a coronal wreath or an ancient crown, with the rays turned outwards: and we see atop what may be either large spikes or catkins. What strange forms of vegetable life appear in the forest behind! Can that be a club-moss that raises its slender height for more than fifty feet from the soil? Or can these tall palm-like trees be actually ferns, and these spreading branches mere



fronds? And then these gigantic reeds!—are they not mere varieties of the common horse-tail of our bogs and morasses, magnified some sixty or a hundred times? Have we arrived at some such country as the continent visited by Gulliver, in which he found thickets of weeds and grass tall as woods of twenty years' growth, and lost himself amid a forest of corn fifty feet in height? The lesser vegetation of our own country—reeds, mosses, and ferns—seems here as if viewed through a microscope: the dwarfs have sprung up into giants, and yet there appears to be no proportional increase in size among what are unequivocally its trees. Yonder is a group of what seem to be pines—tall and bulky, 'tis true, but neither taller nor bulkier than the pines of Norway and America; and the club-moss behind shoots up its green hairy arms, loaded with what seem catkins, above their topmost cones. But what monster of the vegetable world comes floating down the stream—now circling round in the eddies, now dancing on the ripple, now shooting down the rapid? It resembles a gigantic star-fish, or an immense coach-wheel divested of the rim. There is a green dome-like mass in the centre, that corresponds to the nave of the wheel or the body of the star-fish;<sup>1</sup> and the boughs shoot out horizontally on every side, like spokes from the nave, or rays from the central body. The diameter considerably exceeds forty feet; the branches, originally of a deep green, are assuming the golden tinge of decay; the cylindrical and hollow leaves stand out thick on every side, like prickles of the wild rose on the red, fleshy, lance-like

<sup>1</sup> *Star-fish*. This is intended as a description of *Stigmaria*, hitherto believed to be an independent vegetable form. Miller, following the earlier description of Lyell, regards it as a succulent water plant, but even while this was being written, it was known to be merely the radiating root of *Sigillaria*, to whose stem it was found attached. It has also been found as part of *Lepidodendron*; and though not a true root, seems to have served as such.



shoots of a year's growth, that will be covered two seasons hence with flowers and fruit. That strangely-formed organism presents no existing type among all the numerous families of the vegetable kingdom. There is an amazing luxuriance of growth all around us. Scarce can the current make way through the thickets of aquatic plants that rise thick from the muddy bottom; and though the sunshine falls bright on the upper boughs of the tangled forest beyond, not a ray penetrates the more than twilight gloom that broods over the marshy platform below. The rank steam of decaying vegetation forms a thick blue haze, that partially obscures the underwood; deadly lakes of carbonic acid gas<sup>1</sup> have accumulated in the hollows; there is silence all around, uninterrupted save by the sudden splash of some reptile fish that has risen to the surface in pursuit of its prey, or when a sudden breeze stirs the hot air, and shakes the fronds of the giant ferns or the catkins of the reeds. The wide continent before us is a continent devoid of animal life, save that its pools and rivers abound in fish and mollusca, and that millions and tens of millions of the infusory tribes swarm in the bogs and marshes. Here and there, too, an insect of strange form flutters among the leaves. It is more than probable that no creature furnished with lungs of the more perfect construction could have breathed the atmosphere of this early period, and have lived.—(*The Old Red Sandstone.*)

---

<sup>1</sup> *Gas.* There are many reasons for believing that carbonic acid gas, or carbon dioxide, existed in larger quantities in the atmosphere than it does now. The climate appears to have been moderately warm and moist, with but a small range of temperature.

## XXIX

SCOTTISH SERFS OF THE NINETEENTH  
CENTURY

IN conversing not long since with a distinguished foreigner, better acquainted than almost any one else with the history of the Slavonic races, he informed me that serfship in some of the Russian provinces is by no means of high antiquity. It is not derived, as might be supposed, from the barbarism of an ancient time, but introduced as one of the encroachments of modern despotism on the wild freedom of tribes, weak because they were ignorant and their numbers few. And such seems to be the history of our Scottish colliers. Profoundly ignorant—kept apart, by their underground profession and their peculiar habits, from the other people of the country—and, withal, not very formidable from their numbers—their liberty seems to have been taken piecemeal from them mainly during the seventeenth century, by the acts of a Parliament in which they were of course wholly unrepresented, and by the decisions of a court in which no one ever appeared for their interests. It was the old Scottish Parliament and our present Court of Session that made the colliers slaves; and the *salters* or salt-makers of the north-eastern shores of Mid-Lothian were associated with them in bondage. The coal and salt masters (as they were termed) of this part of the country were powerful proprietors, possessed of great political influence; and they seem to have been virtually the authors of the acts and the prompters of the decisions. The greatest of their number in this locality were the ancient Seatons of Winton, a very influential family during the reigns of the latter Stuarts. Old Professor George Sinclair, the author

of a curious volume on ghosts and witches, entitled *Satan's Invisible World Displayed*, of which some of our grandmothers knew a good deal, dedicates one of his works to the Earl of Winton, who flourished immediately previous to the Revolution; and, after expatiating on what he quaintly enough terms his "Lordship's virtues anent the coal and the salt," he goes on to urge upon all, with a curious eloquence, that his titled patron was "the greatest nobleman who was a coal and salt master, and the greatest coal and salt master that was a nobleman." I fear the "virtues anent the coal and the salt" of this distinguished family, with those of the other great mineral proprietors, their contemporaries, were mainly of the kind rendered too palpable in the Scottish acts anent colliers and salters, the earliest of which of any mark or importance dates no further back than the year 1606. It was then statute and ordained, under a penalty of a hundred pounds, that no person within the realm should hire or employ colliers, coal-bearers, or salters, unless furnished with a sufficient testimonial from the master whom they had last served; and further, "that sae mony colliers, coal-bearers, and salters," as without such testimonial received such "fore-wages and fees, should be esteemed, repute, and holden *as thieves, and punished in their bodies.*" Pretty well, methinks, as a specimen of the class-legislation of the good old times! This act, however, stringent as it may seem, was found insufficient: there was a class of persons employed in the pits whom it did not include; and in 1661 it was further enacted, "that because watermen, who lave and draw water in the coal-heugh heads, and gatesmen, who work the wayes and passages in the said heughs, *are as necessary to the owners and masters of the said coal-heughs* as the coal-hewers and coal-bearers, it is therefore statute and ordained, that they should come under exactly the same penalties as the

others, in the event of quitting their masters without certificate; and that it should be equally illegal, in the lack of such a document, for any persons to employ them." There was still, however, a certain degree of incompleteness in these slave-making acts. The coal-workers unreasonably demanded wages; and, to put down claims which were found troublesome, it was further enacted, in a specific clause, that it should "not be lawful for any coal-master in the kingdom to give any greater fee than the sum of twenty merks in fee or bountith"—a clause which, according to the interpretation of Lord Kames, fixed the large sum of one pound two shillings sterling as the yearly wages of colliers and salters. It was, however, found that at times the poor subterranean men became restive, or, breaking out into wild licence, refused to work; and so there was a further clause devised to deal with the difficulty, and in which the "virtues anent the coal and salt" became more than usually palpable. "Because"—so runs the reason given—"coal-hewers within the kingdom, and other workers within coal-heughs, with salters, do ly from their work at Pasche, Yule, Whitsunday, and certain other times of the year, which times they employ in drinking and debauching, to the *great offence of God and prejudice of their masters*, it is therefore statute and ordained, that the said coal-hewers and salters, and other workmen in coal-heughs in the kingdom, work all the six days of the week, except the time of Christmas." The slavery of the colliers and salters was now fully completed by act of Parliament; the Supreme Court gave effect, by its decisions, to the imposed law; the Habeas Corpus Act, introduced into Scotland in 1701, expressly declared in one of its clauses, that its provisions were not to be extended to workers in coal or makers of salt; and for a hundred and fourteen years, men and women born within four miles of the Scottish

capital were held as strictly in thrall by their masters as the negroes of Cuba or Carolina are held at the present day. The "Letters of Junius" had appeared, rousing the English people to resist even the slightest encroachment on their liberties; the War of Independence in the American colonies had begun; Robert Burns was cherishing, as a peasant lad in Ayrshire, those sentiments of a generous freedom which breathe from every stanza of his noble and manly verse; nay, Granville Sharp had obtained his Act, through which slavery, if that of the negro or the foreigner, could not come into contact with the soil of Britain without ceasing to be slavery; and yet the poor Scotch collier, buried in that very soil, and bearing about with him its stains, still remained a slave. Not until the year 1775 did the law which had so insiduously bound him set him even nominally free; and certainly very strange, regarded as a British law of the latter half of the eighteenth century, is the preamble of that Act which extended to him, in the first instance, a verbal freedom. "Whereas," it runs, "by the statute law of Scotland, as explained by the judges of the courts of law there, many colliers, coal-bearers, and salters, are in a state of slavery or bondage, bound to the collieries and salt-works, *where they work for life, transferable with the collieries and salt-works*; and whereas the emancipating," etc., etc. This Emancipatory Act failed, however, virtually to emancipate, in consequence of certain conditions attached to it, which the poor workers underground were too improvident and too little ingenious to implement; and their actual emancipation did not take place until the year 1799, when it was effected by a second Act, which stated in its preamble that, notwithstanding the former enactment, "many colliers and coal-bearers still continued in a state of bondage" in Scotland. When residing in a village on the neighbouring coal-field, nearly thirty



years ago, I had many opportunities of conversing with Scotchmen, the colliers of a neighbouring hamlet, who had been born slaves; and at that time found the class still strongly marked by the slave-nature. Though legally only transferable, in the earlier time, with the works and the minerals to which they were attached, cases occasionally occurred in which they were actually transferred by sale from one part of the country to another. During the lapse of the present century, the son of an extensive coal-proprietor was engaged in examining, with a friend, the pits of a proprietor in another part of the field; and finding a collier the tones of whose speech resembled those of the colliers of his own district, he inquired of him whether originally he had not belonged to it? "Oh!" exclaimed the man, with apparent surprise, "d'ye no ken me? Do ye no ken that your faither sold me for a pony?" I owe the anecdote to Mr. Robert Chambers.—(*Edinburgh and its Neighbourhood.*)

---

## XXX

## THE SCENERY OF THE TRAP ROCKS

[Miller concludes the following extract with a fruitful suggestion as to the influence of the geological structure of a country upon its history.]

THE *old* scenery of the trap<sup>1</sup> rocks of Scotland—the scenery associated with them when our country, along at least its two great lines of trappean eruption, was a *Tierra del Fuego*—a land of fire—it would require some of that poetic faculty

<sup>1</sup> A general term for igneous rocks or lavas of the dark basaltic type, though Miller applies it more widely to include such of all sorts.



to restore which I would fain challenge for the geologist. Even in the immediate neighbourhood of the capital, the rocky crust of the earth has been heaved into vast waves by the imprisoned Plutonic agencies struggling for vent; huge floods of molten matter, now hardened into mountain masses, have been injected with earthquake throes between the folds of the stony strata; and a submarine volcano has darkened the heavens with its ashes, shutting out during the day the light of the sun, and throwing its red gleam, when the night had fallen, over the steaming eddies of a boiling and broken sea. The area which we now occupy has heaved like the deck of a storm-beset vessel; the solid earth has been rent asunder; and through the wide cracks and fissures, now existing as greenstone<sup>1</sup> dikes, the red molten matter has come rushing through. Could we this evening ascend into the remote past, when that picturesque eminence which overlooks Edinburgh—according to the poet Malcolm,

“Arthur’s craggy bulk,  
That dweller of the air, abrupt and lone”—

was, like the son of Semele, first ushered into the world amid smoke and flame, you would find the scene such as poets might well desire to contemplate, or solicit the aid of their muse adequately to describe. For many ages, what now exists as the picturesque tract of hill and valley attached to old Holyrood, and to which the privileges of the court still extend, had existed as a tract of shallow sea, darkened, when the tide fell, by algæ-covered rocks and banks, and much beaten by waves. From time immemorial has the portion of the earth’s crust which underlies that shallow sea been a scene of deep-seated igneous action. Vast beds of trappean

<sup>1</sup>A general term for igneous rocks of a greenish hue. “Dikes” are upright intrusive sheets.

rock—greenstone, and columnar basalt, and amygdaloidal porphyry<sup>1</sup>—have been wedged from beneath, as molten injections, between the old sedimentary strata; vast waves of translation have come rolling outwards from that disturbed centre, as some submarine hill, elevated by the force of the fiery injection—as the platform of a hydraulic press is elevated when the pump is plied—has raised its broad back over the tide, only, however, to yield piecemeal to the denuding currents and the storm-raised surf of centuries. And now, for day after day has there been a succession of earthquake shocks, that, as the Plutonic paroxysm increases in intensity, become stronger and more frequent, and the mountain-waves roll outwards in ever-widening circles, to rise and fall in distant and solitary seas, or to break in long lines of foam on nameless islands unknown to the geographer. And over the roar of waves or the rush of tides we may hear the growlings of a subterranean thunder, that now dies away in low deep mutterings, and now, ere some fresh earthquake-shock tempests the sea, bellows wildly from the abyss. The billows fall back in boiling eddies; the solid strata are upheaved into a flat dome, crusted with corals and shells; it cracks, it severs, a dark gulf yawns suddenly in the midst; a dense strongly variegated cloud of mingled smoke and steam arises black as midnight in its central volumes, but chequered, where the boiling waves hiss at its edge, with wreathes of white; and anon, with the noise of many waters, a broad sheet of flame rushes upwards a thousand fathoms into the sky. Vast masses of molten rock, that glow red amid even the light of day, are hurled into the air, and then, with hollow sound, fall back into the chasm, or, descending hissing amid the vexed waters, fling high the hot spray, and send the

<sup>1</sup> An igneous rock whose steam cavities have become filled with minerals.

cross circlets of wave which they raise athwart the heavings of the huger billows propelled from the disturbed centre within. The crater rises as the thick showers of ashes descend; and amid the rending of rocks, the roaring of flames, the dashings of waves, the hissings of submerged lava, and the hollow grumblings of the abyss, the darkness of a starlight night descends upon the deep. Anon, and we are startled by the shock of yet another and more terrible earthquake; yet another column of flame rushes into the sky, casting a lurid illumination on the thick rolling reek and the pitchy heavings of the wave: seen but for a moment, we may mark the silvery glitter of scales, for there is a shoal of dead fish floating past; and as the coruscations of an electric lightning darts in a thousand fiery tongues from the cloud, some startled monster of the deep bellows in terror from the dank sea beyond.

Let us raise the curtain once more from over the past of the trap districts of Scotland. Myriads of ages have come and gone; the submarine volcano has been long extinguished; and the land, elevated high over the waters, has become a scene of human habitation. But the wild country, marked by the well-known features of abrupt precipitous hill and deep retiring valley, is roughened by many a shaggy wood, and gleams with many a blue lochan, and even its richer plains are but partially broken up by the plough. And lo! the trappean centres of the district are scenes of fierce war, as of old; but it is not the dead uninformed elements—fire, earth, and water—but energetic, impassioned man, that now contends, and in fierce warfare battles, with his kind. Yonder, on its trap rock, over the crater of a volcano, is the fortress of the Bass, the stronghold that last surrendered in Britain to William of Nassau; and yonder, on its trap rock, the castle of Dunbar, that brave black Agnes held out in so determined a spirit against the English; and yonder, on its trap rock,

the castle of Dirleton, which stood siege in behalf of our country against Edward I.; and yonder, on its trap rock, scaled by Lord Randolph of old when he warred for the Bruce, is the castle of Edinburgh, the scene of a hundred fights, and surrounded by the halo of a thousand historic associations; and yonder, on its trap rock, is the castle of Stirling, with the battle-ground of Scotland at its feet, and to maintain which against the greatest of our Scottish kings, the second Edward vainly fought the battle of Bannockburn; and yonder, on its trap rock, is the castle of Dumbarton, long impregnable, but which the soldier of the Reformation won at such fearful risk from the partisans of Mary. I remember at one time deeming it not a little curious that the early geological history of a country should often, as in this instance, seem typical of its subsequent civil history. If a country's geological history had been much disturbed—if the trap rock had broken out from below, and tilted up its strata in a thousand abrupt angles, steep precipices, and yawning chasms, I found the chances as ten to one that there succeeded, when man came upon the scene, a history, scarce less disturbed, of fierce wars, protracted sieges, and desperate battles. The stormy morning during which merely the angry elements had contended, I found succeeded in almost every instance by a stormy day maddened by the turmoil of human passion. But a little reflection dissipated the mystery; though it served to show through what immense periods mere physical causes may continue to operate with moral effect, and how, in the purposes of Him who saw the end from the beginning, a scene of fiery confusion—of roaring waves and heaving earthquakes, of ascending hills and deepening valleys—may have been closely associated with the right development and ultimate dignity and happiness of the moral agent of creation—unborn at the time—reasoning, responsible man. It is amid these

centres of geologic disturbance, the natural strongholds of the earth, that the true battles of the race, the battles of civilisation and civil liberty, have been successfully maintained by handfuls of hardy men, against the despot-led myriads of the plains. In glancing over a map of Europe and the countries adjacent, on which the mountain groups are marked, you will at once perceive that Greece and the Holy Land, Scotland and the Swiss cantons, formed centres of great plutonic disturbance of this character. They had each their geologic tremors and perturbations—their protracted periods of eruption and earthquake—long ere their analogous civil history, with its ages of convulsion and revolution, in which man was the agent, had yet commenced its course. And, indirectly at least, the disturbed civil history was in each instance a consequence of the disturbed geologic one.—(*Sketch Book of Popular Geology.*)

---

## XXXI

## THE ORIGIN OF THE BASS ROCK

[“*The Geology of the Bass* explains itself to be a contribution to a work published in 1847, devoted to the elucidation of the History, the Natural History, and all the other peculiarities of the Bass Rock. The work was got up under the auspices of James Crawford, Esq., W.S., a native of North Berwick, in conjunction with Mr. W. P. Kennedy, publisher, and Mr. John Greig, printer. Hugh Miller reserved the copyright of his own contribution on its Geology for the purpose of making it a constituent part of his *Geology of Scotland*—a work long contemplated, and into which all these papers and lectures, as well as those on *Popular Geology*, would have been incorporated.”—*Mrs. Miller's Preface.*]



THE curtain rises, and there spreads out a wide sea, limited, however, in its area by a dark fog that broods along the horizon, and enveloped, even where best seen, in a grey obscurity, like that of a misty morning in May an hour before the sun has risen. It is the ocean of our Scotch Grauwacke<sup>1</sup> that rolls beneath and around us; but regarding its inhabitants—so exceedingly numerous and well-defined in the contemporary seas of what is now England—we can do little more than guess. We know merely that it rolls its waves over a grey impalpable mud, to whose numerous folds it communicates in the shallows the characteristic ripple-markings; that it possesses a chambered shell of the genus *Orthocera*, with two or three obscure *Brachiopods*; <sup>2</sup> and that the grey mud beneath abounds in some localities with a curious zoophyte, akin to the existing sea-pens of our deep submarine hollows. The more abundant denizens of that twilight sea are creatures shaped like a quill, or rather communities of creatures<sup>3</sup>—for each quill is a little republic—that enjoy their central shaft, with its stony axis, as common property, and have their rows of microscopic domiciles ranged in the filaments of the web. The light brightens over the wide expanse, and the fog rises; myriads of ages have passed by; the countless strata of the Grauwacke are already deposited; and we have entered on the eras of the Old Red Sandstone. That change has taken place, to the reality of which, as conclusively indicated in space, the judgment of Playfair could not refuse its assent, but with whose slow operations, as spread over time almost lengthened into eternity, his imagination failed to grapple. The perspective

<sup>1</sup> The Upper Silurian of the Lowlands. See note on p. 245.

<sup>2</sup> See notes on p. 245. *Orthoceras* (a Cephalopod), unlike the *Ammonite* (see note 1, p. 290), was straight.

<sup>3</sup> *Graptolites*: specially characteristic of the Silurian System.



darkened as he looked along the long vista of the ages gone by, and left on his mind but a perplexing and shadowy idea of a dim platform of undefined boundary, on which chaotic revolutions of incalculable vastness were performed during periods of immeasurable extent. It does seem a strange fact, and yet the evidence of its reality as such is incontrovertible, that when the lower beds of the Old Red Sandstone were—to borrow from the philosopher—“only beginning to be deposited in the shape of mud or sand, from the waters of a superincumbent ocean,”<sup>1</sup> the Grauwacke on which they were thrown down was quite as old a looking rock as it is now, and that the numerous graptolites preserved in its strata existed at the time as but the dimly-preserved fossils which we now see them—miniature quills, with thickly serrated edges, drawn in glossy bitumen on a ground of grey.

With the beginnings of the Old Red Sandstone a slight change takes place in the colouring of the prospect. There is a flush of ochrey red over yonder shallow, where the wave beats on the ferruginous sand; the skerry beyond seems darkened with sea-weed; and though we are still, as before, out of sight of land, and so can know little regarding its productions, we may see a minute branch of club-moss floating past, and the trunk of some coniferous tree, and can, in consequence, at least determine that land there is. But mark how brightly the depths gleam with the mirror-like reflection of scales—scales resplendent with enamel, that owe their name—*ganoid*, or glittering—to their brilliancy. How strangely uncouth the forms of these ancient denizens of the deep, and, in some instances, how monstrous their size! Yonder, swimming leisurely a few feet under the surface, as if watching the play of a distant shoal of

<sup>1</sup> But cf. introductory note to Extract XIV.

diplopteri,<sup>1</sup> is the ponderous asterolepis,<sup>2</sup>—its glassy eyes set in their triangular sockets, as in some families of snakes, immediately over its mouth—its head armed with a dermal covering of bone, from which a musket-bullet would rebound as from a stone wall—its body tiled over with oblong scales, delicately carved, like the inlaid mail of a warrior—its jaws furnished with their outer tier of minute thickly-set fish-teeth, greater bulkier than those of the crocodile, and set at wide intervals, after the sauroid pattern. And yonder—a member of the same family, of larger scale, and more squat, though somewhat less colossal in its proportions—swims the strong holoptychius.<sup>3</sup> The numerous flights of pterichthyes,<sup>4</sup> with their compact bodies, spread wings, and rudder-like tails, resemble flocks of submarine birds; the plated coccosteus<sup>5</sup> and the broad glyptolepis<sup>6</sup> flap heavily along the bottom; crowds of minute cheiracanthi,<sup>7</sup> with all their various congeners, bristling with spines, and poised on membranaceous, scale-covered fins, dart hither, thither, and athwart, in the green stratum above; while dimly seen, a huge crustacean creeps slowly over the ribbed sand beneath. But ages and centuries pass in quick succession, as the waves roll along the surface—species and genera pass away, families become extinct, races perish; the rocks of the Old Red Sandstone, holding in their stony folds their numerous strange organisms, are all laid down, as those of the

<sup>1</sup> Ancient fringe-finned fish.

<sup>2</sup> Miller's restoration of *Asterolepis* (*Footprints of the Creator, or The Asterolepis of Stromness*) is a composite creature with "scales of *Glyptolepis* and teeth of *Dendrodus*." In the main it is a huge *Coccostean* (*Homosteus Milleri*). Cf. note, p. 133.

<sup>3</sup> Early lung-fish.

<sup>4</sup> See p. 128.

<sup>5</sup> Uncertain whether related to lung-fishes or to sharks.

<sup>6</sup> Fringe-finned, like living *Polypterus* of the Nile.

<sup>7</sup> Small, shark-like fish.

Grauwacke had been previously deposited; and the scene changes as the unsummed periods of the system reach their close.

There is a further increase in the light as the day advances, and the sun climbs the steep of heaven; but the fogs of morning still hang their dense folds on the horizon. We shall look out for the land when the mist rises: it cannot now be far distant. The brown eddies of a freshet circle past, restricted, as where vast rivers mingle with the ocean, to an upper layer of sea; and broken reeds, withered ferns, the cones of the *Lycopodiaceæ*,<sup>1</sup> and of trees of the *Araucarian* family, float outwards in the current, thick and frequent as the spoils of the great Mississippi in the course of the voyager, when he has come within half a day's sail of the shores of the delta. But our view is still restricted, as heretofore, to a wide track of sea—now whitened, where the frequent flats and banks rise within a few fathoms of the surface, by innumerable beds of shells, reefs of corals, and forests of *Crinoidea*.<sup>2</sup> Here the water seems all a-glow with the brilliant colours of the living polypi that tenant the calcareous cells—green, scarlet and blue, yellow and purple: we seem as if looking down on gorgeous parterres, submerged when in full blow, or, through the dew-bedimmed panes of a green-house, on the magnificent heaths, geraniums, and cacti of the warmer latitudes, when richest in flower. Yonder there lie vast argosies of snowy *Terebratula*,<sup>3</sup> each fast anchored to the rocky bottom by the fleshy cable that stretches from the circular dead eye in its umbone, like the mooring chain in the prow of a galley; while directly over them, vibrating in the tide, stretch the marble-like petals of the stone lily. The surface is ploughed by the numerous

<sup>1</sup> Club-mosses, etc., see p. 243.

<sup>2</sup> "Stone-lilies."

<sup>3</sup> See note, p. 245.

sailing-shells of the period—the huge orthocera, and the whorled nautilacea and goniatite. And fish abound as before, though the races are all different. We may mark the smaller varieties in play over the coral beds—the lively palæoniscus, that so resembles a gold-fish cased in bone, and the squat deeply-bodied amblypterus, with its nicely fretted scales and plates, and its strongly rayed fins. The *gyracanthis*,<sup>1</sup> with its massy spine carved as elaborately as the 'prentice pillar in Roslin, swims through the profounder depths, uncertain in outline, like a moving cloud by night; while the better defined megalichthys, with its coat of bright quadrangular scales, and its closely-jointed and finely-punctulated helmet of enamelled bone, glides vigorously along yonder submarine field of Crinoidea, and the slim stony arms and tall columnar stems, brushed by its fins, bend, as it passes, like a swathe of tall grass swept by a sudden breeze. We are full in the middle of the era of the Carboniferous Limestone. And some of us may be rendered both wiser and humbler, mayhap, by noting a simple fact or two directly connected with this formation, ere the curtain drop over it.

We have already marked in our survey numerous beds of shells, glimmering pale through the shallows—here argosies of *Terebratula* anchored to the rocks beneath—there fleets of chambered nautilaceæ, careering along the surface of the waters above. But it is chiefly on the fixed shells—the numerous bivalves of the profounder depths—that I would now ask the reader to concentrate his attention. They belong, in large proportion, to a class imperfectly represented in the existing seas, and which had comparatively few representatives during even the Secondary periods, rich as these were in molluscs of high development; though, during

<sup>1</sup> Small shark.

the great Palæozoic division, their vast abundance formed one of the most remarkable characteristics of the period. Of this class (the Brachiopoda of the modern naturalist), many hundred species have already been determined in the older rocks of our island; while, as living inhabitants of the seas which encircle it, Dr. Fleming, in his *British Animals*, enumerates but *four* species; and none of these—such is their rarity—the greater part of my readers ever saw. These Brachiopoda, of which in the Carboniferous Limestone there existed the numerous families of the Terebratula, the Spirifer, and the Productus, were in all their species bivalves of an exceedingly helpless class. The valves, instead of being united, as in the cockle, mussel, pecten, and oyster, by strong elastic hinges, were merely sewed together, if I may so speak, by bundles of unelastic fleshy fibres; and the opening of the lips a very little apart—so simple and facile a movement to the ordinary bivalve—was to the Brachiopod an achievement feebly accomplished through the agency of an operose and complex machinery. To compensate, however, for the defect, the creatures were furnished on both sides the mouth with numerous *cilia*, or hair-like appendages, through the rapid vibratory movements of which they could produce minute currents in the water, and thus bring into the interior of their shells, between lips raised but a line apart, the numerous particles of organic matter floating around them which constituted their proper food. They resembled in their mode of living rather the orders below them—radiata<sup>1</sup> such as the Actinea, or zoophytes such as the Tubulariadae—than true molluscs. But there are no mistakes in the work of the Divine Mechanician: in the absence of an elastic hinge, the minute *cilia* performed their part; and so, throughout the vast periods of the Palæozoic

<sup>1</sup> See notes, p. 169.

division, the helpless Brachiopods continued to exist in vastly greater numbers than any of the contemporaries.

But, lo! the mist rises, and slowly dissipates in the sun; and yonder, scarce half a mile away, is the land—a low, swampy shore, covered with a rank vegetation. Thickets of tall plants, of strange form and singular luxuriance, droop over the coast-edge into the sea, like those mangrove jungles of Southern America that bear on their branches crops of oysters. There are reeds,<sup>1</sup> with their light coronals of spiky leaves radiating from their numerous joints, that rival the masts of vessels in size—ferns, whose magnificent fronds overshadow half a rood of surface, that attain to the bulk and height of forest trees—club-mosses, tall as Norwegian pines—and strangely-carved, cacti-looking, leaf-covered trunks, bulky as the body of a man. Nor is there any lack of true trees, that resemble those of the existing period, as exhibited in the southern hemisphere—stately araucarians, that lift their proud heads a hundred feet over the soil—and spiky pines, that raise their taper-trunks and cone-covered boughs to a scarce lower elevation. And yonder green and level land, dank with steaming vapour, and where the golden light streams through long, bosky vistas, crowded with prodigies of the vegetable kingdom—*Sigillaria*, *Favularia*,<sup>2</sup> and *Ulodendra*—is the land of the Coal Measures.

Three of the great geologic periods, comprising almost the whole of the Palæozoic division, have already gone by; and yet the history of the Bass as an igneous rock is still to begin. But we have at least laid down the groundwork of the surrounding landscape. And be it remembered, that all these scenes, however much they may seem the work of fancy, were realities connected with the laying of these deep foundations

<sup>1</sup> Cf. p. 241.

<sup>2</sup> A division of *Sigillariæ* with ribbed stems. Cf. p. 241 and notes.



—realities which might have been as certainly witnessed from the point in space now occupied by the rude crowning pyramid of the Bass, had there been a human eye to look abroad, or a human sensorium to receive the impressions which it conveyed, as the scene furnished by the lovely sunset of this evening. Sir Roderick Murchison, in his magnificent *Silurian System*, has given the example of rendering landscapes according to their real outlines, but coloured according to the tints of the geological map; and the practice possesses the advantage of making the diverse features of the various formations address themselves with peculiar emphasis to the eye. Were the real landscape which the summit of the Bass commands to be so coloured, we would see its wide expanse of area composed of characteristic representatives of each of the three systems whose successive depositions we have described. The distant promontory to the east, on which Fast Castle stands, with the hills in the interior that sweep along the entire background of the prospect, would bear the deep purple tinge appropriated by the geologists to the Grauwacke. Leaning at their feet, from the Siccar Point to Gifford, and from Gifford to Fala, besides abutting on the sea in insulated patches—as at North Berwick, Canty Bay, Tantallon, Seacliff, and Belhaven—we would next see, spread over a large space in the scene, the deep chocolate tint assigned, not unappropriately, to the Old Red. From Cockburnspath to Dunbar on the one hand, and from Aberlady Bay to Arthur Seat on the other, the landscape would exhibit the cold grey hue of the Coal Measures, here and there mottled with the light azure that distinguishes in the map the Carboniferous Limestone; while the trap eminences, with the tuff of the opposite shore, and the island mass at our feet, would flame in the deep crimson of the geologic colourist, as if the igneous rocks of which they are composed still

retained the red heat of their molten condition. Such would be the conventional colouring of the landscape; vast tracts of purple, of chocolate, of grey, and of blue, would indicate the proportional space occupied in its area by the three great systems that have furnished us with a picture apiece; and what we have now to conjure up—the platform of the stage being fairly erected, and its various coverings laid down—is the scene illustrative of the origin and upheaval of the various coverings laid down—is the scene illustrative of the origin and upheaval of the various trap-rocks that have come to form the bolder features of the prospect—among the rest, supreme in the centre of the disturbed district, the stately column of the Bass.

The land of the Coal Measures has again disappeared, and a shoreless but shallow ocean, much vexed by currents, and often lashed by tempests, spreads out around, as during the earlier periods. But there are more deeply-seated heavings that proceed from the centre of the immediate area over which we stand, than ever yet owed their origin to storm or tide. Ever and anon waves of dizzy altitude roll outwards towards the horizon, as if raised by the fall of some such vast pebble as the blind Cyclops sent whizzing through the air after the galley of Ulysses, when

“The whole sea shook, and reflux beat the shore.”

We may hear, too, deep from the abyss, the growlings, as of a subterranean thunder, loud enough to drown the nearer sounds of both wave and current. And now, as the huge kraken lifts its enormous back over the waves, the solid strata beneath rise from the bottom in a flat dome, crusted with shells and corals, and dark with algæ. The billows roll back—the bared strata heave, and crack, and sever—a dense smouldering vapour issues from the opening rents and fissures;

and now the stony pavement is torn abruptly asunder, like some mildewed curtain seized rudely by the hand—a broad sheet of flame mounts sudden as lightning through the opening, a thousand fathoms into the sky—

“Infuriate molten rocks and flaming globes,  
Mount high above the clouds”—

and the volcano is begun.<sup>1</sup> Meanwhile, the whole region around, far as the eye can reach, heaves wildly in the throes of Plutonic convulsion. Above many a rising shallow, the sea boils and roars, as amid the skerries of some rocky bay open to the unbroken roll of the ocean in a time of tempest; the platform of sedimentary rock over an area of many square miles is fractured, like the ice of some Highland tarn during a hasty spring thaw that swells every mountain streamlet into a river; waves of translation, produced at once in numerous centres by the sudden upheaval of the bottom, meet and conflict under canopies of smoke and ashes; the light thickens as the reek ascends; and, amid the loud patter of the ejected stones and pumice, as they descend upon the sea—the dash of waves—and the hollow internal grumbings of earthquakes—dark night comes down upon the deep. Vastly extended periods pass away; there are alternate pauses and paroxysms of convulsion; and ere the Plutonic agencies, worn out in the struggle, are laid fairly asleep, and the curtain again rises, the entire scene is changed. Of the old sedimentary rocks, there remain in a wide track only a few insulated beds, half buried in enormous accumulation of volcanic *débris*—*débris* stratified by the waves, and consolidated into a tolerable adhesive tuff by

<sup>1</sup> *i.e.*, the Bass is the stump of a volcano of Permian age, subsequent to the Carboniferous. There now seems reason to believe that, if it be taken with Arthur's Seat, it was rather of the Old Red Period. A recent discovery suggests as much for the latter.

the superincumbent pressure, and here traversed by long dikes of basalt, and there overlaid by ponderous beds of greenstone. The Bass towers before us as a tall conical hill, deeply indented atop by the now silent crater—its slopes formed of loose ashes and rude fragments of ejected rock, and with the flush of sulphur, here of a deep red, there of a golden yellow, still bright on its sides.

Let us rightly conceive of the hill in this, the last of the bygone aspects. Nearly two centuries ago there was a large track of land covered over, in the north of Scotland, by blown sand; and among the other interred objects—such as human dwellings, sheep and cattle folds, gateways, and the fences of fields and gardens—there were several orchard trees, enveloped in the dry deluge, and buried up. Of one of these it is said that the upper branches projected for several years from the top of the pyramidal hillock that had formed around it, and that they continued to produce in season a few stunted leaves, with here and there a sickly blossom; but the branches at length dried up and disappeared, and for more than a century there were scarce any of the inhabitants of the neighbouring district who seemed to know what it was the conical hill contained. And then the prevailing winds, that had so long before covered up the orchard tree, began to scoop out the sides of its arenaceous tumulus, and to lay bare twig and branch, and at length the trunk itself; but the rotting damp, operating on the wood in a state of close seclusion from the air, had wrought their natural work; and as the tumulus crumbled away, the twigs and boughs, with the upper portion of the trunk, crumbled away also; till at length, when the entire enveloping material were removed, there remained of the tree but an upright stump, that rose a few feet over the soil. Now, the conical envelope or tumulus of *débris* and ashes

which at this stage composes the exterior covering of the Bass, resembles exactly that which surrounded, in the buried barony of Culbin, the orchard tree; while its stony centre of trap, moulded in the tubular crater, with its various branch-like arms bent earthwards, like those of the weeping ash—the remains of eruptive currents flowing outwards and downwards—represent the tree itself. The denuding agent is not, as in the sandy wastes of Moray, the keen dry wind of the west, but the slow wear, prolonged through many ages, of waves and currents. The sloping sides crumble down—the stony branches fall, undermined, into the tide, and are swept away—until at length, as in the orchard tree of my illustration, there remains but an abrupt and broken stump—the ancient storm-worn island of the Bass.

The enormous amount of denudation which the theories of the geologist demand, however consonant with his observations of fact, may well startle the uninitiated. The Lower Coal Measures appear on three sides of this disturbed district: they may be traced, as has been shown, in the immediate neighbourhood of Dunbar to the east; they occur at Abbey Toll, near Haddington, on the south; and they extend a little beyond Aberlady Bay on the west; while the sedimentary rocks that appear in the centre of the area, directly opposite the Bass, belong, as has also been shown, to an inferior member of the Old Red Sandstone. The surrounding Coal Measures form the edges of a broken dome, that, upheaved originally by the volcanic forces, as a bubble in a crucible of boiling sulphur is inflated and upheaved by the imprisoned gas, has been ground down, as it rose, by the denuding agencies, until in the centre of the area the Lower Old Red rocks have been laid bare. And so immense was the dome, though, of course, destroyed piecemeal as it rose—as a log in a sawmill is cut piecemeal by being gradually



impelled on the saw—that immediately over the Bass it would have now risen, had it been suffered to mount unworn and unbroken, to an altitude scarce inferior to that of Ben Nevis or Ben Macdhui. In this region of birds—dwellers on the dizzy cliff—no bird soars half so high as the imaginary dotted line some three or four thousand feet over the level, at which, save for the wear of the waves when the volcanic agencies were propelling the surface upwards, the higher layers of the Coal Measures would now have stood. Denudation to an extent equally great has taken place immediately over the site of the city of Edinburgh. Lunardi, in his balloon, never reached the point, high over our towers and spires, at which, save for the waste of ocean, the upper coal-seams would at this moment have lain. There are various localities in Scotland in which the loss of surface must have been greater still; and fancy, overborne by visions of waste and attrition on a scale so gigantic, can scarce take the conception in; far less can the mind, when unassisted by auxiliary facts, receive it as a reality. Viewed, however, in connection with the vast periods which have intervened since the last of these denuded rocks were formed—and be it remembered that immediately after their formation denudation may have begun—viewed, too, in connection with that work of deposition which has been going on during these periods elsewhere, and with the self-evident truth that mainly from the wear of the older rocks have the materials of the newer been derived—it grows into credibility, and takes its place among kindred wonders, simply as one of the facts of a class. During the *denudation*, to the depth of three or four thousand feet, of the tract of country where the capital of Scotland now stands, a *deposition* to a vastly greater depth was taking place in the tract of country occupied by the capital of England. Nor does it seem in any degree more strange that the rocks in the one



locality should have been ground down from the red sandstones of Roslin to the calciferous beds which underlie the Mountain Limestone, than that strata should have been laid over strata in the other, from the Triassic group to the Oolite, and from the Oolite to the London Clay. Had there not been immense waste and attrition among the Primary and Palæozoic rocks, there could have been no Secondary formations, and no Tertiary system.

My history speeds on to its conclusion. We dimly descry, amid fog and darkness, yet one scene more. There has been a change in the atmosphere; and the roar of flame and the hollow voice of earthquake are succeeded by the howling of wintry tempests and the crash of icebergs. Wandering fragments of the northern winter, bulky as hills, go careering over the submerged land, grinding down its softer rocks and shales into clay, leaving inscribed their long streaks and furrows on its traps and its limestones, and thickly strewing the surface of one district with the detached ruins of another. To this last of the geologic revolutions the deep grooves and furrows of the rocks in the immediate neighbourhood of North Berwick belong, with the immense boulders of travelled rock which one occasionally sees in the interior on moors and hill-sides, or standing out along the sea-coast, disinterred by the waves from amid their banks of gravel or clay. But this last scene in the series I find drawn to my hand, though for another purpose, by the poet who produced "The Ancient Mariner":—

<sup>1</sup> "Anon there comes both mist and snow,  
And it grows wondrous cold;  
And ice mast-high comes floating by,  
As green as emerald.

<sup>1</sup> Adapted in phraseology.

And through the drifts the snowy cliffs  
 Do send a dismal sheen;  
 Nor shapes of men nor beasts we ken—  
 The ice is all between.

The ice is here, the ice is there,  
 The ice is all around;  
 It cracks and growls, and roars and howls,  
 Like noises in a swound."

But the day breaks, and the storm ceases, and the submerged land lifts up its head over the sea; and the Bass, in the fair morn of the existing creation, looms tall and high to the new-risen sun—then, as now,

"An island salt and bare,  
 The haunt of seals and orcs, and sea-mews' clang."

—(*Edinburgh and Its Neighbourhood.*)

## XXXII

IN THE OOLITES OF SUTHERLAND AND  
EATHIE

[On the east coast of Sutherlandshire between Helmsdale and Golspie, and again along the Eathie shore at Cromarty, have been preserved portions of the midway deposits of the Secondary or Mesozoic age. Those in Sutherland are in part, perhaps, Liassic; while the fragments at Eathie have, on palaeontological grounds, been definitely assigned to the Upper Oolite also represented farther north: both being included as sub-divisions of the Jurassic system. These interesting survivals are due to subsidence against the more ancient rocks of the country which thus served as a shelter against their entire removal. They were shallow-water deposits.]

LET us, however, adventure a short walk into the wilds of the Oolite, in that portion of space now occupied on the surface of the globe by the north-eastern hills of Sutherland, where they abut on the precipitous Ord.

We stand on an elevated wood-covered ridge, that on the one hand overlooks the blue sea, and descends on the other towards a broad river, beyond which there spreads a wide expanse of a mountainous, forest-covered country. The higher and more distant hills are dark with pines; and, save that the sun, already low in the sky, is flinging athwart them his yellow light, and gilding, high over shaded dells and the deeper valleys, cliff, and copse, and bare mossy summit, the general colouring of the background would be blue and cold. But the ray falls bright and warm on the rich vegetation around us—tree ferns, and tall club-mosses, and graceful palms, and the strangely-proportioned cycadaceæ, whose leaves seem fronds of the bracken fixed upon decapitated stumps; and along the banks of the river we see tall, intensely green hedges of the feathered equisetaceæ. Brown cones and withered spiky leaves strew the ground; and scarce a hundred yards away there is a noble Araucarian, that raises, sphere-like, its proud head more than a hundred feet over its fellows, and whose trunk, bedewed with odoriferous balsam, glistens to the sun. The calm stillness of the air makes itself faintly audible in the drowsy hum of insects; there is a gorgeous light-poised dragon-fly darting hither and thither through the minuter gnat-like groups: it settles for a moment on one of the lesser ferns, and a small insectivorous creature, scarce larger than a rat, issues noiselessly from its hole, and creeps stealthily towards it. But there is the whirr of wings heard overhead, and lo! a monster descends, and the little mammal starts back into its hole. Tis a winged dragon of the Oolite, a carnivorous reptile,

keen of eye and sharp of tooth, and that to the head and jaws of the crocodile adds the neck of a bird, the tail of an ordinary mammal, and that floats through the air on leathern wings resembling those of the great vampire bat. We have seen, in the minute, rat-like creature, one of the two known mammals of this vast land of the Oolite—the insect-eating *Amphitherium*; and in the flying reptile, one of its strangely organized *Pterodactyls*.

But hark! what sounds are these? Tramp, tramp, tramp—crash, crash. Tree-fern and club-moss, cycas and zamia, yield to the force and momentum of some immense reptile, and the colossal *Iguanodon* breaks through. He is tall as the tallest elephant, but from tail to snout greatly more than twice as long; bears, like the rhinoceros, a short horn<sup>1</sup> on his snout; and has his jaws thickly implanted with saw-like teeth. But, though formidable from his great weight and strength, he possesses the comparative inoffensiveness of the herbivorous animals; and, with no desire to attack, and no necessity to defend, he moves slowly onward, deliberately munching, as he passes, the succulent stems of the cycadaceæ. The sun is fast sinking, and, as the light thickens, the reaches of the neighbouring river display their frequent dimples, and ever and anon long scaly backs are raised over its surface. Its numerous crocodileans are astir; and now they quit the stream, and we see its thick hedge-like lines of equisetaceæ open and again close, as they rustle through, to scour, in quest of prey, the dank meadows that line its banks. There are tortoises that will this evening find their protecting armour of carapace and plastron all too weak, and close their long lives of centuries. And now we saunter downwards to the shore, and see the ground-swell breaking white

<sup>1</sup> It had no horn. What is so described was probably the powerful spur on the thumb of the fore-limbs. Cf. also note on p. 324.

in the calm against ridges of coral scarce less white. The shores are strewn with shells of pearl—the whorled Ammonite<sup>1</sup> and the Nautilus; and amid the gleam of ganoidal scales, reflected from the green depths beyond, we may see the phosphoric trail of the Belemnite,<sup>2</sup> and its path is over shells of strange form and name—the sedentary Gryphæa,<sup>3</sup> the Perna, and the Plagiostoma.

But lo! yet another monster. A snake-like form, surmounted by a crocodilean head, rises high out of the water within yonder coral ledge, and the fiery sinister eyes peer inquiringly round, as if in quest of prey. The body is but dimly seen; but it is short and bulky compared with the swan-like neck, and mounted on paddles instead of limbs; so that the entire creature, wholly unlike anything which now exists, has been likened to a boa-constrictor threaded through the body of a turtle. We have looked upon the *Plesiosaurus*. And now outside the ledge there is a huge crocodilean head raised; and a monstrous eye, huger than that of any other living creature—for it measures a full foot across—glares upon the slimmer and less powerful reptile, and in an instant the long neck and small head disappear. That monster of the immense eye—an eye so constructed that its focus can be altered at will, and made to comprise either near or distant objects, and the organ itself adapted either to examine microscopically or to explore as a telescope—is another bepaddled reptile of the sea, the *Ichthyosaurus* or fish-lizard. But the night comes on, and the shadows of the woods and rocks deepen: there are uncouth sounds along the beach and in the forest; and new monsters of yet stranger

<sup>1</sup> A form of cuttle-fish (*cephalopod*), with a chambered shell, circular like the horns of Jupiter-Ammon.

<sup>2</sup> The fossil ink-pen of a cuttle-fish. (Gr. *Belemnion*, a dart.)

<sup>3</sup> Ancient curved oyster.

shape are dimly discovered moving amid the uncertain gloom. Reptiles, reptiles, reptiles—flying, swimming, waddling, walking;—the age is that of the cold-blooded, ungenial reptile; and, save in the dwarf and inferior forms of the marsupials and insectivora, not one of the honest mammals has yet appeared. And now the moon rises in clouded majesty; and now her red wake brightens in one long strip the dark sea; and we may mark where the *Cetiosaurus*, a sort of reptilian whale,<sup>1</sup> comes into view as it crosses the lighted tract, and is straightway lost in the gloom. But the night grows dangerous, and these monster-haunted woods were not planted for man. Let us return then to the safer and better furnished world of the present time, and to our secure and quiet homes.

. . . . .

The hill of Eathie is a picturesque eminence of granitic gneiss,<sup>2</sup> largely mixed with beds of hornblende schist,<sup>3</sup> which extends, in a long precipitous ridge, some five or six hundred feet in height, along the northern side of the Moray Firth, and forms one of a primary chain of hills, which, in their upheaval, uptilted deposits of the Lias and Oolite. The deposit which the hill of Eathie disturbed is exclusively a Liassic one:<sup>4</sup> the upturned edge of the base of the formation rests against the bottom of the hill; and we may trace the edges of its various upper deposits for several hundred feet outwards, bed above bed, until, apparently near the top of the

<sup>1</sup> The *Cetiosaurus* was more probably a four-limbed creature that walked along the sea or river bottom with its long neck above water.

<sup>2</sup> A rock of materials similar to those of granite, arranged in roughly parallel layers.

<sup>3</sup> A rock made up of sheets of hornblende, a silicate of iron and magnesia, usually dark green or brown in colour.

<sup>4</sup> But see introductory note.



formation, we lose them in the sea. There is a wild beauty on the shores of Eathie. A selvae of comparatively level ground, that occupies the space between the rocky beach and an inflection of the hill, seems embosomed in solitude; the naked scaurs and furze-covered slopes, where the fox and the badger breed, interpose their dizzy fence between it and the inhabited portions of the country above; while the rough unfrequented shore and wide-spreading sea form the secluding barriers below. The only human dwellings visible are the minute specks of white that look out in the sunshine from the dim and diluted blue of the opposite coast; and we may see the lonely firth broadening and widening as it recedes from the eye, and opens to the ocean in a direction so uninterrupted by land, that the waves, which, when the wind blows from the keen north, first begin to break on the distant headlands, and then come running up the coast, like white coursers, may have heaved their first undulating movements under the polar ice. The scene seems such a one as the anchorite might choose to wear out life in, far from the society of fellow-man; and we actually find, in exploring its bosky thickets of wild rose and sloe-thorn, that some anchorite of the olden time *did* make choice of it. A grey shapeless hillock of lichened stone, shaded by luxuriant tufts of fern, still bears the name of the old chapel; and an adjacent spring, on whose overhanging sprays of ivy we may occasionally detect minute tags of linen and woollen cloth—the offerings of a long-derived superstition, not quite extinct in the district—is still known as the Saint's Well. But who the anchorite was, tradition has long since forgot; and it was only last year that I succeeded in recovering the name of the saint from an old man, whose father had been a farmer on the land considerably more than a hundred years before. The chapel and spring had been dedicated, he said, to

St. Kennat<sup>1</sup>—a name which we need scarce look for in the Romish Calendar, but which designated, it is probable, one of our old Culdee saints.

The various beds of the Eathie deposit—all save the lowest, which consists of a blue adhesive clay—are composed of a dark, finely laminated shale; and, varying in thickness from thirty feet to thirty yards, they are curiously separated from each other by bands of fossiliferous limestone. And so impalpable a substance are these shales, that, when subjected to calcination, which is necessary to extract the bitumen with which they are charged, and which gives them toughness and coherency, they resolve into a powder, used occasionally, from its extreme fineness, in the cleaning of polished brass and copper. They were laid down, it is probable, in circumstances similar to those in which, as described by the late Captain Basil Hall, extensive deposits are now taking place in the Yellow Sea of China. “At sunset,” says Captain Hall, in the narrative of his voyage to Loo-Choo, “no land could be perceived from the mast-head, although we were in less than five fathoms water. And before the day broke next morning, the tide had fallen a whole fathom, which brought the ship’s bottom within three feet of the ground. It was soon afterwards discovered that she was actually sailing along with her keel in the mud, which was sufficiently indicated by a long yellow train in our wake. Some inconvenience was caused by this extreme shallowness, as it retarded our headway, and affected the steering; but there was in reality not much danger, as it was ascertained, by forcing long poles into the ground, that for many fathoms below the surface on which the sounding lead rested, and from which level the depth of water is estimated, the bottom consisted of nothing but mud formed of an impalpable

<sup>1</sup> Or Bennet, *i.e.*, Benedict of “the Romish Calendar.”

powder, without the least particle of sand or gravel." The Liassic deposit of Eathie must have been of slow deposition. It consists of laminæ as thin as sheets of pasteboard, which, of course, shows that there was but little deposited at a time, and pauses between each deposit. And, though a soft muddy surface could have been of itself no proper habitat for the sedentary animals—serpulæ, oysters, gryphites, and terebratulæ—we find further, that they did, notwithstanding, find footing upon it, by attaching themselves to the dead shells of such of the sailing or swimming molluscs, Ammonites and Belemnites, as died over it, and left upon it their remains; from which we infer that the pauses must have been very protracted, seeing that they gave time sufficient for the Terebratulæ—shells that never moved from the place in which they were originally fixed—to grow up to maturity. The thin leaves of these Liassic volumes must have been slowly formed and deliberately written; for as a series of volumes, reclining against a granite pedestal in the geologic library of nature, I used to find pleasure in regarding them. The limestone bands, curiously marbled with lignite, ichthyolite, and shell, formed the stiff boarding; and the thin pasteboard-like laminæ between—tens and hundreds of thousands in number in even the slimmer volumes—composed the closely written leaves. For never did characters or figures lie closer in a page than the organisms on the surfaces of these leaf-like laminæ. Permit me to present you from my note-book with a few readings taken during a single visit from these strange pages.

We insinuate our lever into a fissure of the shale, and turn up a portion of one of the laminæ, whose surface had last seen the light when existing as part of the bottom of the old Liassic sea, when more than half the formation had still to be deposited. Is it not one of the prints of Sowerby's *Mineral*

*Conchology* that has opened up to us? Nay, the shells lie too thickly for that, and there are too many repetitions of organisms of the same species. The drawing, too, is finer, and the shading seems produced rather by such a degree of relief in the figures as may be seen in those of an embossed card, than by any arrangement of lighter and darker colour. And yet the general tone of the colouring, though dimmed by the action of untold centuries, is still very striking. The ground of the tablet is of a deep black, while the colours stand out in various shades, from opaque to silvery white, and from silvery white to deep grey. *There*, for instance, is a group of large Ammonites, as if drawn in white chalk; *there*, a cluster of minute bivalves resembling Pectens,<sup>1</sup> each of which bears its thin film of silvery nacre; *there*, a gracefully formed Lima<sup>2</sup> in deep natural tint; while, lying athwart the page, like the dark hawthorn leaf in Bewick's<sup>3</sup> well-known vignette, there are two slim sword-shaped leaves coloured in deep umber. We lay open a portion of another page. The centre is occupied by a large Myacites, still bearing a warm tint of yellowish brown, and which must have been an exceedingly brilliant shell in its day; there is a Modiola,<sup>4</sup> a smaller shell, but similar in tint, though not quite so bright, lying a few inches away, with an assemblage of dark grey Gryphites<sup>5</sup> of considerable size on the one side, and on the other a fleet of minute Terebratulæ,<sup>6</sup> that had been borne down and covered up by some fresh deposit from above, when riding at their anchors. We turn over yet another page. It is occupied exclusively by Ammonites of various sizes, but all of one species, as if a whole argosy, old and young, convoyēs and convoyed, had been wrecked at

<sup>1</sup> Scallops.

<sup>2</sup> Mollusc allied to scallop.

<sup>3</sup> An early nineteenth century engraver of natural subjects on wood.

<sup>4</sup> Horse-mussel.

<sup>5</sup> Oysters.

<sup>6</sup> See note on p. 245.

once, and sent disabled and dead to the bottom. And here we open yet another page more. It bears a set of extremely slender Belemnites. They lie along and athwart, and in every possible angle, like a heap of boarding-pikes thrown carelessly down on a vessel's deck on the surrender of the crew. Here, too, is an assemblage of bright black plates, that shine like pieces of japan work, the cerebral plates of some fish of the ganoid order; and here an immense accumulation of minute glittering scales of a circular form. We apply the microscope, and find every little interstice in the page covered with organisms. And leaf after leaf, for tens and hundreds of feet together, repeats the same strange story. The great Alexandrian library, with its unsummed tomes of ancient literature, the accumulation of long ages, was but a poor and meagre collection, scarce less puny in bulk than recent in date, when compared with this vast and wondrous library of the Scotch Lias.

Now, this Eathie deposit is a crowded burying-ground, greatly more charged with remains of the dead, and more thoroughly saturated with what was once animal matter than ever yet was city burying-place in its most insanitary state. Every limestone band or nodule yields, when struck by the hammer, the heavy fetid odour of corruption and decay, and so charged is the laminated shale with the animal-derived matter, that it flames in the fire as if it had been steeped in oil, and yields a carburetted hydrogen gas scarce less abundantly than some of our coals of vegetable origin. The fact of the existence, throughout all the geological ages, of the great law of death, is a fact which must often press upon the geologist. Almost all the materials of his history he derives from cenotaphs and catacombs. He finds no inconsiderable portion of the earth's crust composed of the remains of its ancient inhabitants—not of dead individuals merely, but also



of dead species, dead genera, nay, of even dead creations; and here, where the individual dead lie as thickly on the surface of each of many thousand layers as leaves along the forest glades in autumn—here, where all the species and many of the genera are dead, nay, where the whole creation represented by its multitudinous organisms is dead—the great problem which this law of death presents comes upon the explorer in its most palpable and urgent form.—(*Lectures on Geology.*)

---

## XXXIII

## SCOTLAND IN THE ICE AGE

[Knowledge as to the cause, the precise conditions, and the origins of the phenomena of the Ice Age immediately preceding the present epoch, cannot be said to have advanced much in fullness or certainty since Miller's time. He accepts the presence of land ice in the form of local glaciers, though he does not rise to the conception favoured by a minority of his contemporaries and now generally agreed upon, that Scotland, at least in the earliest stages, with northern and western Europe, was substantially mantled in ice from end to end. This hypothesis, however, while simplifying the geological problem, seriously complicates that involved in the present and past distribution of western European plants and animals. Probably, too, the land then stood higher than at any subsequent period; as is indicated by the low level of the pre-glacial river channels. The problem of the deposition of the boulder-clay, too, presents special difficulties. It is rock waste varying in character and colour with the locality, and studded with "boulders" of all sizes. To some it appears a product, a ground moraine, of the ice sheet, modified by the



conditions of melting. Others, basing their conclusions upon its stratification as well as the presence of sands enclosing marine shells, urge that it must have been laid down under water; a considerable submergence of the land being thus required in order to bring the deposits to their present high level. Icebergs and floes then play their part. Miller writes upon the latter assumption. On the whole he is safely vague, and says nothing of possible inter-glacial periods with recession of the ice from the lowlands. His idea as to the cause of the lowered temperature takes shape in an "arctic current" counteracting the influence of the Gulf Stream; or, elsewhere, in the actual turning aside of the latter by some geographical change. Miller herein followed Lyell. The consequent lowering of temperature, however, it has been calculated, is on these terms insufficient for the results; apart from difference of opinion as to the actual climatic effects of the Gulf Stream on our shores.

(J. Geikie's *Great Ice Age*. Bonney's *Ice Work*. Sir A. Geikie's *Scenery of Scotland*. Howorth's *Glacial Nightmare Geology, etc., of Clyde Area*, in Brit. Assoc. Handbook, 1901, p. 522. Brend's *Story of Ice*. Scharff's *European Animals*.)].

LET us attempt calling up the features of our country in one continuous landscape, as they appeared at the commencement of the glacial period, just as the paroxysm of depression had come on, and bold headland and steep iron-bound islet had begun slowly to settle into the sea.

The general outline is that of Scotland, though harsher and more rugged than now, for it lacks the softening integument of the subsoils. Yonder are the Grampians, and yonder the Cheviots, and, deeply indenting the shores, yonder are the well-known estuaries and bays—the firths of Forth, Tay, and Moray, and the long withdrawing lakes, Loch Katrine, and Loch Awe, and Loch Maree, and the far-gleaming waters of the deep Caledonian Valley, the Ness, and the Oich, and the Lochy. But though the summer sun looks

down upon the scene, the snow-line descends beneath the top of even our second-class mountains; and the tall beetling Ben Nevis, and graceful Ben Lomond, and the broad-based Ben Muich Dhui, glitter in the sunshine, in their coats of dazzling white, from their summits half-way down to their bases. There are extended forests of the native fir on the lower plains, mingled with the slimmer forms and more richly-tinted foliage of the spruce pine. On the upper grounds, thickets of stunted willows and straggling belts of diminutive birches skirt the ravines and water-courses, and yellow mosses and grey lichens form the staple covering of the humbler hill-sides and the moors. But the distinctive feature of the country is its glaciers. Fed by the perpetual snows of the upper heights, the deeper valleys among the mountains have their rigid ice-rivers, that in the narrower firths and lochs of the western and northern coasts shoot far out, mole-like, into the tide. And, lo! along the shores, in sounds and bays never yet ploughed by the keel of the voyager, vast groups of icebergs, that gleam white to the sun, like the sails of distant fleets, lie moveless in the calm, or drift slowly along in rippling tideways. Nor is the land without its inhabitants, though man has not yet appeared. The colossal elephant,<sup>1</sup> not naked and dingy of coat, like his congener of the tropics, but shaggy, with long red hair, browses among the woods. There is a strong-limbed rhinoceros wallowing in yonder swamp, and a herd of rein-deer cropping the moss high on the hill-side beyond. The morse is basking on that half-tide skerry; and a wolf, swept seawards by the current, howls loud in terror from yonder drifting ice-floe. We have looked abroad on our future country in the period of the first local glaciers, ere the submergence of the land.

<sup>1</sup>The mammoth.

Ages pass, and usher in the succeeding period of the boulder-clay. The prospect, no longer that of a continuous land, presents us with a wintry archipelago of islands, broken into three groups by two deep ocean-sounds—the ocean-sound of the great Caledonian Valley, and that of the broader but shallower valley which stretches across the island from the Clyde to the Forth. We stand full in front of one of these vast ocean-rivers—the southern one. There are snow-enwrapped islets on either side. Can yonder thickly-set cluster be the half-submerged Pentlands? and yonder pair of islets, connected by a low flat neck, the eastern and western Lomonds? and yonder half-tide rock, blackened with algæ, and around which a shoal of porpoises are gambolling, the summit of Arthur Seat? The wide sound, now a rich agricultural valley, is here studded by its fleets of tall icebergs—there cumbered by its level fields of drift-ice. Nature sports wantonly amid every variety of form; and the motion of the great floating masses, cast into shapes with which we associate moveless solidity, adds to the magical effect of the scene. Here a flat-roofed temple, surrounded by colonnades of hoar and wasted columns, comes drifting past; there a cathedral, furnished with towers and spire, strikes heavily against the rocky bottom, many fathoms beneath, and its nodding pinnacles stoop at every blow. Yonder, already fast aground, there rests a ponderous castle, with its curtained towers, its arched gateway, and its multitudinous turrets, reflected on the calm surface beneath; and pyramids and obelisks, buttressed ramparts, and embrasured watch-towers, with shapes still more fantastic—those of ships, and trees, and brute and human forms—crowd the retiring vista beyond. There is a scarce less marked variety of colour. The intense white of the field-ice, thinly covered with snow, and glittering without shade in the declining sun, dazzles the eye. The taller ice-

bergs gleam in hues of more softened radiance—here of an emerald green, there of a sapphire blue, yonder of a paly marble grey; the light, polarized by a thousand cross reflections, sports amid the planes and facets, the fissures and pinnacles, in all the rainbow gorgeousness of the prismatic hues. And bright over all rise on the distant horizon the detached mountain-tops, now catching a flush of crimson and gold from the setting luminary. But the sun sinks, and the clouds gather, and the night comes on black with tempest; and the grounded masses, moved by the violence of the aroused winds, grate heavily along the bottom; and while the whole heavens are foul with sleet and snow-rack, and the driving masses clash in rude collision, till all beneath is one wide stunning roar, the tortured sea boils and dashes around them, turbid with the comminuted débris of the fretted rocks below.

The vision belongs to an early age of the boulder-clay: it changes to a later time; and the same sea spreads out as before, laden by what seem the same drifting ice-floes. But the lower hills, buried in the profound depths of ocean, are no longer visible; the Lammermuirs have disappeared; and the slopes of Braid and Duddingstone, with

“North Berwick Law, with cone of green,  
And Bass amid the waters;”

and we can only determine their place by the huger icebergs that lie stranded and motionless on their peaks; while the lesser masses drift on to the east. Moons wax and wane, and tides rise and fall; and still the deep current of the gulf-stream flows ever from the west, traversing the wide Atlantic, like some vast river winding through an enormous extent of meadow; and, in eddying over the submerged land, it arranges behind the buried eminences, in its own

easterly line, many a long trail of gravel and débris, to form the Crag and Tail phenomenon<sup>1</sup> of future geologists. As we extend our view, we may mark, far in the west, where the arctic current, dotted white with its ice-mountains and floes, impinges on the gulf stream; and where, sinking from its chill density to a lower stratum of sea, it gives up its burden to the lighter and more tepid tide. A thick fog hangs over the junction, where the warmer waters of the west and south encounter the chill icy air of the north; and, steaming forth into the bleak atmosphere like a seething caldron, the cloud, when the west winds blow, fills with its thick grey reek the recesses of the half-foundered land, and obscures the prospect.

Anon there is another change in the dream. The long period of submergence is past; the country is again rising; and, under a climate still ungenial and severe, the glaciers lengthen out seawards, as the land broadens and extends, till the northern and western Highlands seem manacled in ice. Even the lower hill-tops exhibit an alpine vegetation, beautiful, though somewhat meagre; while in the firths and bays, the remote ancestors of many of our existing shells that thrive in the higher latitudes, still mix, as at an earlier period, with shells whose living representatives are now to be sought on the coasts of northern Scandinavia and Greenland. Ages pass; the land rises slowly over the deep, terrace above terrace; the thermal line moves gradually to the north; the line of perpetual snow ascends beyond the mountain summits; the temperature increases; the ice disappears; the semi-arctic plants creep up the hill-sides, to be supplanted on the plains by the leafy denizens of happier climates; and at length, under skies such as now look down

<sup>1</sup> Not entirely. Ordinary denudation acting upon the rocks according to their character has at least helped.



upon us, and on nearly the existing breadth of land, the human period begins. The half-naked hunter, armed with his hatchet or lance of stone, pursues the roe or the wild ox through woods that, though comparatively but of yesterday, already present appearances of a hoar antiquity; or, when the winter snows gather around his dwelling, does battle at its beleaguered threshold with the hungry wolf or the bear. The last great geologic change takes place; the coast line is suddenly elevated; and the country presents a new front to the sea. And on the widened platform, when yet other ages have come and gone, the historic period commences, and the light of a classical literature falls for the first time on the incidents of Scottish story, and on the bold features of Scottish character.—(*Sketch Book of Popular Geology.*)

#### SCENERY OF THE BOULDER CLAY.

The morning was clear, but just a little chill; and a soft covering of snow, that had fallen during the storm on the flat summit of Benwyvis, and showed its extreme tenuity by the paleness of its tint of watery blue, was still distinctly visible at the distance of full twenty miles. The sun, low in the sky—for the hour was early—cast its slant rays athwart the prospect, giving to each nearer bank and hillock, and to the more distant protuberances on the mountain-sides, those well-defined accompaniments of shadow that serve, by throwing the minor features of a landscape upon the eye in bold relief, to impart to it an air of higher finish and more careful filling up than it ever bears under a more vertical light. I took the road which, leading westward from the town towards Invergordon Ferry, skirts the Frith on the one hand, and runs immediately under the noble escarpment of green bank formed by the old coast line on the other. Fully two-thirds of the



entire height of the rampart here, which rises in all about a hundred feet over the sea level, is formed of the boulder-clay; and I am acquainted with no locality in which the deposit presents more strongly, for at least the first half mile, one of its marked scenic peculiarities. It is furrowed vertically on the slope, as if by enormous flutings in the more antique Doric style; and the ridges by which these are separated—each from a hundred to a hundred and fifty feet in length, and from five-and-twenty to thirty feet in average height—resemble those burial mounds with which the sexton frets the churchyard turf; with this difference, however, that they seem the burial mounds of giants, tall and bulky as those that of old warred against the gods. They are striking enough to have caught the eye of the children of the place, and are known among them as the Giants' Graves. I could fain have taken their portrait in a calotype this morning, as they lay against the green bank—their feet to the shore, and their heads on the top of the escarpment—like patients on a reclining bed, and strongly marked, each by its broad bar of yellow light and of dark shadow, like the ebon and ivory buttresses of the poet. This little vignette, I would have said to the landscape-painter, represents the boulder-clay, after its precipitous banks—worn down, by the frosts and rains of centuries, into parallel runnels, that gradually widened into those hollow grooves—had sunk into the angle of inclination at which the disintegrating agents ceased to operate, and the green sward covered all up. You must be studying these peculiarities of aspect more than ever you studied them before. There is a time coming when the connoisseur will as rigidly demand the specific character of the various geologic rocks and deposits in your hills, *scaurs*, and precipices, as he now demands specific character in your shrubs and trees.

It is worthy the notice of the young geologist, who has just set himself to study the various effects produced on the surface of a country by the deposits which lie under it, that for about a quarter of a mile or so, the base of the escarpment here is bordered by a line of bogs, that bear in the driest weather their mantling of green. They are fed with a perennial supply of water, by a range of deep-seated springs, that come bursting out from under the boulder-clay; and one of their number, which bears, I know not why, the name of Samuel's Well, and yields its equable flow at an equable temperature, summer and winter, into a stone trough by the wayside, is not a little prized by the town's-people, and the seamen that cast anchor in the opposite roadstead, for the lightness and purity of its water. What is specially worthy of notice in the case is, the very definite beginning and ending of the chain of bogs. All is dry at the base of the escarpment, up to the point at which they commence; and then all is equally dry at the point at which they terminate. And of exactly the same extent—beginning where the bogs begin, and ending where they end—we may trace an ancient stratum of pure sand, of considerable thickness, intercalated between the base of the clay and the superior surface of the Old Red Sandstone. It is through this permeable sand that the profoundly seated springs find their way to the surface—for the clay is impermeable; and where it comes in contact with the rock on either side of the arenaceous stratum, the bogs cease. The chain of green bogs is a consequence of the stratum of permeable sand. I have in vain sought this ancient layer of sand—decidedly of the same era with the argillaceous bed which overlies it—for aught organic. A single shell, so unequivocally of the period of the boulder-clay as to occur at the base of the deposit, would be worth, I have said, whole drawerfuls of fossils furnished by the better known

deposits. But I have since seen in abundance shells of the boulder-clay.

There is another scenic peculiarity of the clay, which the neighbourhood of Cromarty finely illustrates, and of which my walk this morning furnished numerous striking instances. The Giants' Graves—to borrow from the children of the place—occur on the steep slopes of the old coast line, or in the sides of ravines, where the clay, as I have said, had once presented a precipitous front, but had been gradually moulded, under the attritive influences of the elements, into series of alternating ridges and furrows, which, when they had flattened into the proper angle, the green sward covered up from further waste. But the deep dells and narrow ravines in which many ranges of these graves occur are themselves peculiarities of the deposit. Wherever the boulder-clay lies thick and continuous, as in the parish of Cromarty, on a sloping table-land, every minute streamlet cuts its way to the solid rock at the bottom, and runs through a deep dell, either softened into beauty by the disintegrating process, or with all its precipices standing up raw and abrupt over the stream. Four of these ravines, known as the “Old Chapel Burn,” the “Ladies' Walk,” the “Morial's Den,” and the “Red Burn,” each of them cutting the escarpment of the ancient coast line from top to base, and winding far into the interior, occur in little more than a mile's space; and they lie still more thickly farther to the west. These dells of the boulder-clay, in their lower windings—for they become shallower and tamer as they ascend, till they terminate in the uplands in mere *drains*, such as a ditcher might excavate at the rate of a shilling or two per yard—are eminently picturesque. On those gentler slopes where the vegetable mould has had time and space to accumulate, we find not a few of the finest and tallest trees of the district. There is a bosky

luxuriance in their more sheltered hollows, well known to the schoolboy what time the fern begins to pale its fronds, for their store of hips, sloes, and brambles; and red over the foliage we may see, ever and anon as we wend upwards, the abrupt frontage of some precipitous *scaur*, suited to remind the geologist, from its square form and flat breadth of surface, of the cliffs of the chalk. When viewed from the sea, at the distance of a few miles, these ravines seem to divide the sloping tracts in which they occur into large irregular fields, laid out considerably more in accordance with the principles of the landscape gardener than the stiffly squared rectilinear fields of the agriculturist. They are *ha-has* of Nature's digging; and their bottom and sides in this part of the country we still find occupied in a few cases—though in many more they have been ravaged by the wasteful axe—by noble forest-*hedges*, tall enough to overtop, in at least their middle reaches, the tracts of table-land which they divide.

I passed, a little farther on, the quarry of Old Red Sandstone, with a huge bank of boulder-clay resting over it, in which I first experienced the evils of hard labour, and first set myself to lessen their weight by becoming an observer of geological phenomena. It had been deserted apparently for many years; and the *débris* of the clay partially covered up, in a sloping talus, the frontage of rock beneath. Old Red Sandstone and boulder-clay, a broad bar of each!—such was the compound problem which the excavation propounded to me when I first plied the tool in it—a problem equally dark at the time in both its parts. I have since got on a very little way with the Old Red portion of the task; but alas for the boulder-clay portion of it! A bar of impenetrable shadow has rested long and obstinately over the newer deposit; and I scarce know whether the light which is at length beginning to play on its pebbly front be that of the

sun or of a delusive meteor. But courage, patient hearts! the boulder-clay will one day yield up *its* secret too. Still further on by a few hundred yards, I could have again found use for the calotype, in transferring to paper the likeness of a protuberant picturesque cliff, which, like the Giants' Graves, could have belonged, of all our Scotch deposits, to only the boulder-clay. It stands out, on the steep acclivity of a furze-covered bank, abrupt as a precipice of solid rock, and yet seamed by the rain into numerous divergent channels, with pyramidal peaks between; and, combining the perpendicularity of a true cliff with water-scooped furrows of a yielding clay, it presents a peculiarity of aspect which strikes, by its grotesqueness, eyes little accustomed to detect the picturesque in landscape. I remember standing to gaze upon it when a mere child; and the fisher children of the neighbouring town still tell that "*it has been prophesied*" it will one day fall, "and kill a man and a horse on the road below"—a legend which shows it must have attracted *their* notice too.

I selected as the special scene of exploration this morning, a deep ravine of the boulder-clay, which had been recently deepened still more by the waters of a mill-pond, that had burst during a thunder-shower, and, after scooping out for themselves a bed in the clay some twelve or fifteen feet deep, where there had been formerly merely a shallow drain, had then tumbled into the ravine, and bared it to rock. The sandstones of the district, soft and not very durable, show the scratched and polished surfaces but indifferently well, and, when exposed to the weather, soon lose them; but in the bottom of the runnel by which the ravine is swept I found them exceedingly well marked—the polish as decided as the soft red stone could receive, and the lines of scratching running in their general bearing due east and west, at nearly



right angles with the course of the stream. Wherever the rock had been laid bare during the last few months, *there* were the markings; wherever it had been laid bare for a few twelvemonths, they were gone. I next marked a circumstance which has now for several years been attracting my attention, and which I have found an invariable characteristic of the true boulder-clay. Not only do the rocks on which the deposit rests bear the scratched and polished surfaces, but in every instance the fragments of stone which it incloses bear the scratchings also, if from their character capable of receiving and retaining such markings, and neither of too coarse a grain nor of too hard a quality. If of limestone, or of a coherent shale, or of a close, finely-grained sandstone, or of a yielding trap, they are scratched and polished—invariably on one, most commonly on both their sides; and it is a noticeable circumstance, that the lines of the scratchings occur, in at least nine cases out of every ten, in the lines of their longer axes. When decidedly oblong or spindle-shaped, the scratchings run lengthwise, preserving in most cases, on the under and upper sides, when both surfaces are scratched, a parallelism singularly exact; whereas, when of a broader form, so that the length and breadth nearly approximate—though the lines generally find out the longer axis, and run in that direction—they are less exact in their parallelism, and are occasionally traversed by cross furrows. Of such certain occurrence is this longitudinal lining on the softer and finer-grained pebbles of the boulder-clay, that I have come to regard it as that special characteristic of the deposit on which I can most surely rely for purposes of identification. I am never quite certain of the boulder-clay when I do not detect it, nor doubtful of the true character of the deposit when I do.—(*Rambles of a Geologist*, in “*The Cruise of the Betsey*.”)



## XXXIV

## THE RAISED BEACHES

[In the closing stage of the Ice or Glacial Period, Scotland would appear to have been sunk below its present level to an extent sufficient to produce a beach about 100 feet higher. This was followed by an elevation of the land or withdrawal of the sea which apparently connected the British Isles with each other and the Continent, and allowed of the growth of forests, later to be submerged. Subsequent changes of level have left traces of a sea beach at about 50 feet, and of another at 15-25 feet; the last being, as is to be expected, the most extensive. Remnants of these terraces are found in shielded parts of the coast. Miller, in his usual fashion, attributes the differences of level to "paroxysms," but they were more likely the result of such slow movements of elevation or depression as occur round certain shores to-day.]

SAND dunes and morasses are phenomena of a strictly local character. The last great geological change, general in its extent and effects, of which Scotland was the subject, was a change in its level, in relation to that of the ocean, of from fifteen to thirty feet. At some unascertained period, regarded as recent by the geologist—for man seems to have been an actor on the scene at the time—but remote by the historian—for its date is anterior to that of his oldest authorities in this country—the land rose, apparently during several interrupted paroxysms of upheaval, so that there was a fringe of comparatively level sea-bottom laid dry, and added to the country's area, considerably broader than that which we now see exposed by the ebb of every stream tide. And what I must deem indubitable marks of this change of level can be traced all around Scotland and its islands. The

country, save in a few interrupted tracts of precipitous coast, where the depth of the water, like that beside a steep mole whose base never dries at ebb, precluded any accession to the land, presents around its margin a double coast line—the line at present washed by the waves, and a line now covered with grass, or waving with shrubs, or skirted by walls of precipice perforated with caves, against which the surf broke for the last time more than two thousand years ago. These raised beaches form a peculiar feature in our Scottish scenery, which you must have often remarked. In passing along the public road between Portobello and Leith, the traveller sees on the left hand a continuous grassy bank, with a line of willows atop, which he may mark in some places advancing in low promontories, in others receding into shallow bays, and which is separated from the present coast line, which in great flatness it greatly resembles, by a strip of rich meadow land, varying from one to three hundred yards in breadth. That continuous grassy bank is the old coast line; and the gently sloping margin of green meadow is the strip of flat sea-beach along which the tides used to rise and fall twice every twenty-four hours, ere the retreat of the sea within its present bounds. Should it be low ebb at the time, one may pass from the ancient to the recent sea-beach; the one waving with grass, the other brown with algæ; the one consisting, under its cover of vegetable mould, of stratified gravels and sands, blent with the decayed shells of mollusca that died more than twenty centuries since—the other formed of exactly the same sort of lines of stratified sand and gravel, and strewed over with shells that were thrown ashore by the last tide, and that lived only a few weeks ago. And, rising over the lower, as over the upper flat, we see a continuous escarpment, which marks where, in the present age, during the height of stream tides, the sea

and the land meet; just as the upper willow-crested escarpment indicates where they met of old. The two escarpments and the two gently sloping planes at their base are repetitions of the same phenomena, save that the upper escarpment and upper plane are somewhat softer in their outline than the lower—an effect of the wear of the elements, and of the accumulation of the vegetable mould. There is as thorough an identity between them as between two contiguous steps of a stair, covered, the one by a patch of brown, and the other by a patch of green, in the pattern of the stair-carpet. There are other parts of our Scottish shores in which the old coast line is of a much bolder character than anywhere in this neighbourhood, and the plane at its base of greater breadth. On the Forfarshire coast, the Dundee and Arbroath Railway runs along the level margin, once a sea-bottom, which at one point, opposite the parish church of Barry, is at least two miles in breadth, and the old coast line rises from thirty to fifty feet over it. It is strongly marked on the southern side of the Dornoch Firth, immediately below and for several miles to the east of the town of Tain,<sup>1</sup> where it attains a breadth of from one to two miles, and where the old sea-margin, rising over the cottage-mottled plain below in a series of jutting headlands, with green bosky bays between, strikes even the least practised eye as possessed of all the characteristic peculiarities of a true coast line. It is scarce less marked in the neighbourhood of Cromarty, and on the opposite shores of the Cromarty Firth, in the parish of Nigg. It runs along by much the greater portion of the eastern coast of Sutherland; and forms at the head of Loch Fleet, in the neighbourhood of Dornoch, a long withdrawing firth, bounded by picturesque shores, and covered by a short, green sward, level as the sea in a calm, on which groups of

<sup>1</sup> The town of Tain stands on the 100 feet beach.

willow and alder trees take the place of busy fleets, and the hare and the partridge that of the coot and the porpoise. Along the upper recesses of almost all our flatter firths, such as the firths of Beaully, of Dingwall, of the Tay, and of the Clyde, it exists as tracts of carse-land; the rich links of the Forth, rendered classical by the muse of Macneil, belong to it; it furnishes, in various other localities more exposed to the open sea, ranges of sandy links of a less valuable character, such as the range in our own neighbourhood occupied by the race-course of Inveresk; and not a few of the seaports and watering-places of the country, such as the greater part of Leith, Portobello, Musselburgh, Kirkcaldy, Dundee, Dingwall, Invergordon, Cromarty, Wick, Thurso, Kirkwall, Oban, and Greenock, have been built upon it.<sup>1</sup>

The old coast line, with the flat marginal selvage at its base, form, as I have said, well-marked features in the scenery of the island. Geology may be properly regarded as the *science* of landscape: it is to the landscape-painter what anatomy is to the historic one or to the sculptor. In the singularly rich and variously compounded prospects of our country there is scarce a single trait that cannot be resolved into some geological peculiarity in the country's framework, or which does not bear witness otherwise and more directly than from any mere suggestion of the associative faculty, to some striking event in its physical history. Its landscapes are tablets roughened, like the tablets of Nineveh, with the records of the past; and their various features, whether of hill or valley, terrace or escarpment, form the bold and graceful characters in which the narrative is inscribed. As our Scottish geologists have given less attention to this special department of their science than to perhaps any other—less, I am disposed to think, than, from its intrinsic interest and its bearing on

<sup>1</sup> i.e., the 15-25 feet beach.

art, is fairly owing to it—I shall take the liberty—casting myself on the forbearance of such of my audience as are least artistic in their tastes—of occasionally touching upon it in my course.

I need scarce refer to the scenery of our mosses—these sombre, lake-like tracts, divested, however, of the cheerful gleam of the water—that so often fatigue the eye of the traveller among our mountains, but which at that season when the white cottony *carnach* mottles their dark surfaces, reminding one of tears on a hatchment—when the hills around, purple with the richly-blossoming heath, are chequered with the light and shade of a cloud-dappled sky—and when, in the rough foreground, the grey upright stone of other days waves its beard of long grey lichen to the breeze—are not unworthy, in their impressive loneliness, of employing, as they have oftener than once done, the magic pencil of a Macculloch. I need as little refer to the scenery of these sand dunes which gleam so brightly amid some of our northern landscapes, and which, not only in colour, but also in form, contrast so strongly with our morasses. The dark flat morass is suggestive always of sluggish and stagnant repose: whereas among our sand dunes, from the minuter ripple-markings of the general surface, to the wave-like form of the hills sloped in the direction of the prevailing winds, and curved, like snow-wreaths, to the opposite point of the compass, almost every outline is equally suggestive of motion. I could, however, fain borrow the pencil of our countryman Hill, as he employs it in his exquisite cabinet-pictures, to portray the story of the last Barony: rolling hills of sand all around, the red light of a stormy summer evening deepening into dun and lurid brown, through an eddying column of suffocating dust snatched up by a whirlwind; the antique garden-dial dimly shadowing forth the hour of sunset for the



last time amid half-submerged shrubs and trees ; and, full in the centre of the picture, a forlorn fortalice of the olden time, with the encroaching wreath rising to its lower battlements, like some wrecked vessel on a wild lee-shore, with the angry surf raging high over her deck, and kissing with its flame-like tips the distant yards.

The scenery of the old coast line possesses well-nigh all the variety of that of the existing coast ; but it substitutes field and meadow for the blue sea, and woods and human dwellings for busy mast-crowded harbours, and fleets riding at anchor. It is pleasing, however, to see headland jutting out beyond headland into some rich plain, traversed by trim hedgerows and green lanes ; or some picturesque cottage, overshadowed by its gnarled elm, rising in some bosky hollow at the foot of the swelling bank or weather-stained precipice, beneath which the restless surf once broke against the beach. There are well-marked specimens of this scenery of the ancient coast line in our immediate neighbourhood. Musselburgh, with its homely Saxon name, lies in the middle of what was once a flat sandy bay, now laid out into fields, gardens, and a race-course ; and the old coast escarpment, luxuriant with hanging woods, and gay with villas, and which may possibly have been its first Celtic designation, *Inveresk*, ere the last upheaval of the land, half-closes around it. The church and burying-ground occupy the top of a long ridge, that had once been a river-bar, heaped up apparently by the action of the waves on the one side, and by that of the stream on the other. But, as shown by the remains of Roman baths and a Roman rampart, which once occupied its summit, it must have borne its present character from at least the times of Lollius Urbicus<sup>1</sup>—perhaps for several centuries earlier. The neighbouring town of Portobello, as seen

<sup>1</sup> First quarter of the second century A.D.



from the east, just as it comes full in sight of the Musselburgh road, seems set so completely in a framework of the ancient escarpment, that it derives from it all its natural features. But it is where, along our bolder shores, lines of steep precipices have been elevated over the sea, so that the waves no longer reach their bases, that the old coast scenery is at once most striking and peculiar. Tall picturesque stacks, which had once stood up amid the surf, brown and shaggy with the serrated fucus<sup>1</sup> and the broad fronded laminaria,<sup>2</sup> now rise out of thickets of fern or sloethorn, and wave green with glassy ivy and the pendant honeysuckle. Deep caverns, too, in which the billows had toiled for ages, but now silent, save when the drop tinkles from above into some cool cistern half-hidden in the gloom of the interior, open along the wall of cliffs; and over projecting buttresses of rock, perforated often at their bases as if by Gothic archways, and thickly mantled over by liver-worts, green and grey, the birch hangs tremulous from above, or the hazel shoots out its boughs of brighter green, or the mountain-ash hangs its scarlet berries. One of the most pleasing landscapes of one of the most accomplished of female artists—Miss Stoddart—has as its subject an ancient escarpment of this bold character, which occurs in Arran. A mossy, fern-tufted meadow, skirted by the sea, roughened by what had once been half-tide skerries, and enlivened by a Highland cottage, stretches out into the foreground from an irregular wall of rock, overhung by graceful foliage, hollowed into deep recesses, adown which the waters trickle, and with some of its bolder projections perforated at the base like flying buttresses of the decorated Gothic; and such is the truth of the representation, that we at once determine that the artist had chosen as her subject one of the most precipitous reaches

<sup>1</sup> Wrack.<sup>2</sup> Tangle.

of the old coast line, and that its wall of rock must have derived much of the peculiarity of trait so happily caught, from the action of the waves. Again, in direct contrast with this striking type of old coast escarpment, though in its own way not less striking, Mr. Hill's fine picture, "The Sands at Sunrise," lately engraved by the Art Union, exhibits as its background one of those long, flat, sandy pits, products of the last upheaval, which, stretching far into the sea, bear amid the light of day an air of even deeper loneliness than our woods and fields when embrowned by the gathering night. When the insulated stacks of an old coast line are at once tall and attenuated, and of a white or pale-coloured rock, the effect, especially when viewed by moonlight, is singularly striking. The valley of the Seine, as described by Sir Charles Lyell—now a valley, but once a broad firth—is flanked on each side, in its lower reaches, by tall stacks of white chalk, of apparently the same age as those of the ancient coast line of our own country; and, seen ranged along their green hill-sides, in the imperfect light of evening, or by the rising moon, they seem the sheeted spectres of some extinct tribe of giants.

The date of that change of level which gave to Scotland this flat fringe of margin-land, with its picturesque escarpment of ancient coast, we cannot positively fix. We find reason to conclude that it took place previous to the age of the Roman invasion. It has been shown, from evidence of a semi-geologic, semi-archæologic character, by one of our highest authorities on the subject, Mr. Smith of Jordanhill, that the land must have stood at a not lower level than now, when the Roman wall which connects the firths of Forth and Clyde was completed. For, had it been otherwise, some of the terminal works which remain would have been, what they obviously were not, under the sea line at the time. In the sister

kingdom, too, which has also its old coast line, St. Michael's Mount in Cornwall, which was connected with the mainland at low water by a strip of beach in the times of Julius Cæsar—a fact recorded by Diodorus Siculus<sup>1</sup>—is similarly connected with the mainland at low water still. But though the upheaval of the old coast line is removed thus beyond the historic period, it seems to have fallen, as I have said, within the human one: man seems to have been an inhabitant of the island when its general level was from twenty to forty feet lower than now, and the waves broke at full tide against the old coast line. "The skeleton of a *Balænoptera*," says Professor Owen, "seventy-two feet in length, was found," about thirty years ago, "imbedded in the clay on the banks of the Forth, more than twenty feet above the reach of the highest tide." And again, "Several bones of a whale,"<sup>2</sup> he continues, "were also discovered at Dunmore rock, Stirlingshire, in brick-earth, nearly forty feet above the present sea-level." These whales must have been stranded when the old coast line was washed by the waves, and the marginal strip existed as an oozy sea-bottom; and yet in both cases there were found among the bones primitive weapons made of the pointed branches of deer's horns, hollowed at their broad ends by artificial perforations; and in one of these perforations the decayed fragments of a wooden shaft still remained. The pointed and perforated pieces of horn were evidently rude lance-heads,<sup>3</sup> that in all probability had been employed against the stranded *cetacea* by the savage natives. Further,

<sup>1</sup> An assumption. The description of Diodorus would rather fit the Thanet of those times, than St. Michael's Mount.

<sup>2</sup> The Finner whale which frequents British seas.

<sup>3</sup> Their shape does not warrant this conclusion. The whales probably perished through stranding, and these were chisels used in hacking off the flesh.—(Sir W. Turner, to British Association, 1889.)

where the city of Glasgow now stands, three ancient boats—one of which may be seen in the Museum of our Scottish Antiquaries in Edinburgh, and another in the Andersonian Museum—have been dug up since the year 1781; the last only four years ago. One of the number was found a full quarter of a mile from the Clyde, and about twenty-six feet above its level at high water. It reposed, too, not on a laminated silt, such as the river now deposits, but on a pure sea-sand. “It therefore appears,” says Mr. Robert Chambers, in his singularly ingenious work on *Raised Beaches*, “that we have scarcely an alternative to the supposition that when these vessels foundered, and were deposited where in modern times they have been found, the Firth of Clyde was a sea several miles wide at Glasgow, covering the site of the lower districts of the city, and receiving the waters of the river not lower than Bothwell Bridge.” I may add, that the Glasgow boat in the Antiquarian Museum is such a rude canoe, hollowed out of a single trunk, as may be seen in use among such of the Polynesian islands as lie most out of the reach of civilisation, or in the Indian Archipelago, among the rude Alforian races; and that in another of these boats—the first discovered—there was found a beautifully polished hatchet of dark green-stone—an unequivocal indication that they belonged to the “stone period.” There are curious etymologies traceable among the older Celtic names of places in the country which I have sometimes heard adduced in evidence that it was inhabited, ere the last upheaval of the land, by the ancient Gaelic-speaking race. Eminences that rise in the flat marginal strip, and which, though islands once, could not have been such since the final recession of the sea, continue to bear, as in the neighbourhood of Stirling, the Gaelic prefix for an island. But as the old Celts seem to have been remarkable as a people for their nice perception of resem-

blances, the insular form of these eminences may be perhaps regarded as suggestive enough to account for their names. One of these etymologies, however, which could scarce have been founded on any mere resemblance, seems worthy of special notice. Loch Ewe, in Ross-shire, one of our salt-sea lochs, receives the waters of Loch Maree—a noble fresh-water lake, about eighteen miles in length, so little raised above the sea-level, that ere the last upheaval of the land it must have formed merely the upper reaches of Loch Ewe. The name Loch Maree—Mary's<sup>1</sup> Loch—is evidently mediæval. And, curiously enough, about a mile beyond its upper end, just where Loch Ewe would have terminated ere the land last arose, an ancient farm has borne from time immemorial the name of Kinlochewe—the head of Loch Ewe. Dispose, however, of the etymologies as we may, there are facts enough on record which render it more than probable that, though the general change of level to which we owe the old coast line in Scotland does not lie within the historic ages, it is comprised within the human period. But we cannot, as has been shown, fix upon a date for the event.

Were the case otherwise—could we fix with any certainty the time when this change of level took place, and the platform of the lower coast line was gained from the sea—there might be an approximation made to the anterior space of time during which the line of high water had been the willow-crowned escarpment beyond Portobello and the green bank near Rutherglen, and the sea rose far beyond its present limits in our firths and bays. There are portions of the coast that at this early period presented to the waves lines of precipices that are now fringed at their bases by strips of verdure, and removed far beyond their reach. There are other portions of coast in the immediate neighbourhood of these, where

<sup>1</sup> Not Mary, but Malruba, an ancient Celtic saint of Ross-shire.



similar lines of precipices, identical in their powers of resistance, were brought by the same movement within that very influence of the waves beyond which the others have been raised. And each line bears, in the caves with which it is fretted—caves hollowed by the attrition of the surf in the direction of faults, or where the masses of yielding texture had been included in the solid rock—indices to mark, proportionally at least, the respective periods during which they were exposed to the excavating agent. Thus, the average depth of the ancient caves in an exposed line of coast, as ascertained by dividing the aggregate sum of their depths by their number, and the average depth, ascertained by the same process, of the recent caves, equally exposed on the same coast, and hollowed in the same variety of rock, could scarce fail to represent their respective periods of exposure, had we but a given number of years, historically determined, to set off against the average measurement of the recent excavations. Even wanting that, however, it is something to know, that though the sea has stood at the existing sea-margin since the days of Agricola,<sup>1</sup> and at least a few centuries more, it stood for a considerably longer period at the old coast line. The rock of which those remarkable promontories, the Sutors of Cromarty, are composed, is a granitic gneiss, much traversed by faults, and enclosing occasional masses of a soft chloritic schist,<sup>2</sup> that yields to waves, while the surrounding gneiss—hard enough to strike fire with steel—remains little affected by the attrition of centuries. These promontories have, in consequence, their numerous caves ranged in a double row—the lower row that of the existing coast, the upper that of the old one; and I have examined both rows with some little degree of care. The deepest of the recent caves measures, from the opening

<sup>1</sup> 80 A.D.<sup>2</sup> Of a bright green colour.



to its inner extremity, where the rock closes, exactly a hundred feet; the deepest of the ancient ones, now so completely raised above the surf, that in the highest tides, and urged upwards by the severest storms, the waves never reach its mouth, measures exactly a hundred and fifty feet. And these depths, though much beyond the respective average depths of their several rows, bear, so far as I could ascertain the point, the proportions to each other that these averages bear. The caves of the existing coast line are as *two* in depth, and those of the old coast line as *three*. If the excavation of the recent caves be the work of *two* thousand years, the excavation of the ancient caves must have been the work of *three* thousand; or, as two thousand does not bring us much beyond the Roman period, let us assume as the period of the existing coast line and its caves, two thousand two hundred years, and as the proportional period of the old coast line, three thousand three hundred more. Both sums united bring us back five thousand five hundred years. How much more ancient either coast line may be, we of course cannot determine.

---

### XXXV

## A SURVEY OF THE GEOLOGICAL PERIODS

In the first or Palæozoic division we find corals, crustaceans, molluscs, fishes, and, in its later formations, a few reptiles. But none of these classes of organisms give its leading character to the Palæozoic; they do not constitute its prominent feature, or render it more remarkable as a scene of life than any of the divisions which followed. That which chiefly distinguished the Palæozoic from the Secondary and Tertiary

periods was its gorgeous flora. It was emphatically the period of plants—"of herbs yielding their seed after their kind." In no other age did the world ever witness such a flora: the youth of the earth was peculiarly a green and umbrageous youth—a youth of dusk and tangled forests—of huge pines and stately araucarians, of the reed-like calamite, the tall tree-fern, the sculptured sigillaria, and the hirsute lepidodendron.<sup>1</sup> Wherever dry land, or shallow lake, or running stream appeared, from where Melville Island now spreads out its ice wastes under the star of the pole, to where the arid plains of Australia lie solitary beneath the bright cross of the south, a rank and luxuriant herbage cumbered every footbreadth of the dank and steaming soil; and even to distant planets our earth must have shone through the enveloping cloud with a green and delicate ray. Of this extraordinary age of plants we have our cheerful remembrancers and witnesses in the flames that roar in our chimneys when we pile up the winter fire—in the brilliant gas that now casts its light on this great assemblage, and that lightens up the streets and lanes of this vast city—in the glowing furnaces that smelt our metals, and give moving power to our ponderous engines—in the long dusky trains that, with shriek and snort, speed dart-like athwart our landscapes—and in the great cloud enveloped vessels that darken the lower reaches of your noble river, and rush in foam over ocean and sea. The geologic evidence is so complete as to be patent to all, that the first great period of organized being was, as described in the Mosaic record, peculiarly a period of herbs and trees, "yielding seed after their kind."

The middle great period of the geologist—that of the Secondary division—possessed, like the earlier one, its herbs and plants, but they were of a greatly less luxuriant and

<sup>1</sup> For these see Extract No. XXVIII., and notes.

conspicuous character than their predecessors, and no longer formed the prominent trait or feature of the creation to which they belonged. The period had also its corals, its crustaceans, its molluscs, its fishes, and in some one or two exceptional instances its dwarf mammals. But the grand existences of the age—the existences in which it excelled every other creation, earlier or later—were its huge creeping things—its enormous monsters of the deep—and, as shown by the impressions of their footprints stamped upon the rocks, its gigantic birds. It was peculiarly the age of egg-bearing animals, winged and wingless. Its wonderful *whales*, not, however, as now, of the mammalian, but of the reptilean class—ichthyosaurs, plesiosaurs, and cetiosaurs<sup>1</sup>—must have tempestured the deep; its creeping lizards and crocodiles, such as the teleosaurus, megalosaurus, and iguanodon<sup>2</sup>—creatures some of which more than rivalled the existing elephant in height, and greatly more than rivalled him in bulk—must have crowded the plains or haunted by myriads the rivers of the period; and we know that the foot-prints of at least one of its many birds are of fully twice the size of those made by the horse or camel. We are thus prepared to demonstrate, that the second period of the geologist was peculiarly and characteristically a period of whale-like reptiles of the sea, of enormous creeping reptiles of the land, and of numerous birds, some of them of gigantic size; and, in meet accordance with the fact, we find that the second Mosaic period with which the geologist is called on to deal was a period in which God

<sup>1</sup> See p. 291 and note.

<sup>2</sup> The *Megalosaurus* was a huge carnivorous lizard that carried itself like a kangaroo; the *Teleosaurus* a crocodile, probably of the sea; *Iguanodon* an herbivorous dinosaur (“terrible-reptile”) walking like *Megalosaurus* on its hind legs. Cf. p. 289 and note. To these semi-erect monsters are due the “footprints” spoken of below.

created the fowl that flieth above the earth, with moving [or creeping] creatures, both in the waters and on the land, and what our translation renders great whales, but which I find rendered in the margin, great sea-monsters.

The Tertiary period had also its prominent class of existences. Its flora seems to have been no more conspicuous than that of the present time; its reptiles occupy a very subordinate place; but its beasts of the field were by far the most wonderfully developed, both in size and numbers, that ever appeared upon earth. Its mammoths and its mastodons, its rhinoceri and its hippopotami, its enormous dinotherium and colossal megatherium, greatly more than equalled in bulk the hugest mammals of the present time, and vastly exceeded them in number. The remains of one of its elephants (*Elephas primigenius*) are still so abundant among the frozen wastes of Siberia, that what have been not inappropriately termed "ivory quarries" have been wrought among their bones for more than a hundred years. Even in our own country, of which, as I have already shown, this elephant was for long ages a native, so abundant are the skeletons and tusks, that there is scarcely a local museum in the kingdom that has not its specimens, dug out of the Pleistocene deposits of the neighbourhood. And with this ancient elephant there were meetly associated in Britain, as on the northern continents generally all round the globe, many other mammals of corresponding magnitude. "Grand indeed," says an English naturalist, "was the fauna of the British islands in those early days. Tigers as large again as the biggest Asiatic species lurked in the ancient thickets; elephants of nearly twice the bulk of the largest individuals that now exist in Africa or Ceylon roamed in herds; at least two species of rhinoceros forced their way through the primæval forest; and the lakes and rivers were tenanted by hippopotami as

bulky, and with as great tusks, as those of Africa." The massive cave-bear and large cave-hyæna belonged to the same formidable group, with at least two species of great oxen (*Bos longifrons*<sup>1</sup> and *Bos primigenius*<sup>2</sup>), with a horse of smaller size, and an elk (*Megaceros Hibernicus*) that stood ten feet four inches in height. Truly this Tertiary age—this third and last of the great geologic periods—was peculiarly the age of great "beasts of the earth after their kind, and of cattle after their kind."

The group of mammals which, in Europe at least, immediately preceded the human period, seems to have been everywhere a remarkable one; and nowhere was it more so than in the British islands. Our present mammaliferous fauna is rather poor; but the contents of the later deposits show that we must regard it as but a mere fragment of a very noble one. Associated with species that still exist in the less cultivated parts of the country, such as the badger, the fox, the wild cat, the roe, and the red deer, we find the remains of great animals, whose congeners must now be sought for in the intertropical regions. Britain during the times of the boulder clay, and for ages previous, had its native elephant, its two species of rhinoceros, its hippopotamus, its hyæna, its tiger, its three species of bears, its two species of beavers, its great elk, and its gigantic deer. Forms now found widely apart, and in very different climates, meet within the British area. During at least the earlier times of the group, the temperature of our island seems to have been very much what it is now. As I have already had occasion

<sup>1</sup> The Celtic shorthorn, remains of which are numerous. It was, however, rather small, and probably supplied the first domesticated cattle.

<sup>2</sup> The Aurochs, or Urus (Cæsar), the large European wild-ox, now extinct.

to remark, the British oak flourished on its plains and lower slopes, and the birch and Scotch fir on its hills. And yet, under these familiar trees, the lagomys or tailless hare, a form now mainly restricted to Siberia and the wilds of Northern America, and the reindeer, an animal whose proper habitat at the present time is Lapland, were associated with forms that are now only to be found between the tropics, such as that of the hippopotamus and rhinoceros. These last, however, unequivocally of extinct species, seem to have been adapted to live in a temperate climate; and we know from the famous Siberian specimen, that the British elephant, with its covering of long hair and closely felted wool, was fitted to sustain the rigours of a very severe one. It is surely a strange fact, but not less true than strange, that since hill and dale assumed in Britain their present configuration, and the oak and birch flourished in its woods, there were caves in England haunted for ages by families of hyænas—that they dragged into their dens, with the carcasses of long-extinct animals, those of the still familiar denizens of our hill-sides, and feasted, now on the lagomys, and now on the common hare—that they now fastened on the beaver or the reindeer, and now upon the roe-buck or the goat. In one of these caves, such of the bones as projected from the stiff soil have been actually worn smooth in a narrow passage where the hyænas used to come in contact with them in passing out and in; and for several feet in depth the floor beneath is composed almost exclusively of gnawed fragments, that still exhibit the deeply indented marks of formidable teeth. In the famous Kirkdale cave alone, part of the skeletons of from two to three hundred hyænas have been detected, mixed with portions of the osseous framework of the cave-tiger, the cave-bear, the ox, the deer, the mammoth, and the rhinoceros. That cave must have been a den of wild creatures for many



ages ere the times of the boulder-clay, during which period it was shut up from all access to the light and air by a drift deposit, and lay covered over until again laid open by some workmen little more than thirty years ago. Not only were many of the wild animals of the country which still exist contemporary for a time with its extinct bears, tigers, and elephants, but it seems at least highly probable that several of our domesticated breeds derived their origin from progenitors whose remains we find entombed in the bone-caves and other deposits of the same age; though of course the changes effected by domestication in almost all the tame animals renders the question of their identity with the indigenous breeds somewhat obscure. Cuvier was, however, unable to detect any difference between the skeleton of a fossil horse contemporary with the elephant, and that of our domestic breed; a fossil goat of the same age cannot be distinguished from the domestic animal; and one of our two fossil oxen (*Bos longifrons*) does not differ more from some of the existing breeds than these have, in the course of time, been made, chiefly by artificial means, to differ among themselves. But of one of our domestic tribes no trace has yet been found in the rocks: like the cod family among fishes, or the Rosaceæ among plants, it seems to have preceded man by but a very brief period. And certainly, if created specially for his use, though the pride of the herald might prevent him from selecting it as in aught typical of the human race, it would yet not be easy to instance a family of animals that has ministered more extensively to his necessities. I refer to the sheep—that soft and harmless creature, that clothes civilized man everywhere in the colder latitudes with its fleece—that feeds him with its flesh—that gives its bowels to be spun into the catgut with which he refits his musical instruments—whose horns he has learned to fashion into a

thousand useful trinkets—and whose skin, converted into parchment, served to convey to later times the thinking of the first full blow of the human intellect across the dreary gulf of the middle ages.

At length the human period begins. A creature appears upon the scene unlike all that had preceded him, and whose nature it equally is to look back upon the events of the past—among other matters, on that succession of beings upon the planet which he inhabits with which we are this evening attempting to deal—and to anticipate at least one succession more, in that still future state in which he himself is again to appear, in happier circumstances than now, and in a worthier character. We possess another history of the primæval age and subsequent chronology of the human family than that which we find inscribed in the rocks. And it is well that we do so. From various causes, the geologic evidence regarding the period of man's first appearance on earth is singularly obscure. That custom of "burying his dead out of his sight," which obtained, we know, in the patriarchal times, and was probably in use ever since man came first under the law of death, has had the effect of mingling his remains with those of creatures that were extinct for ages ere he began to be. The cavern, once a haunt of carnivorous animals, that in the first simple ages of his history had furnished him with a shelter when living, became his burying-place when dead; and thus his bones, and his first rude attempts in pottery and weapon-making, have been found associated with the remains of the cave-hyæna and cave-tiger, with the teeth of the ancient hippopotamus, and the tusks of the primæval elephant.—(*The Testimony of the Rocks.*)

---

## XXXVI

## THE MOSAIC VISION OF CREATION

[Miller's last work, *The Testimony of the Rocks* (1857), is an heroic effort to square the conclusions of Geology with the account of Creation in the first chapter of Genesis. To accomplish this he applies the hypothesis of a series of representative visions, already suggested by several thinkers, among others Coleridge, but not, so far, worked out on the scale exhibited by Miller].

SUCH a description of the creative vision of Moses as the one given by Milton of that vision of the future which he represents as conjured up before Adam by the archangel, would be a task rather for the scientific poet than for the mere practical geologist or sober theologian. Let us suppose that it took place far from man, in an untrodden recess of the Midian desert, ere yet the vision of the burning bush had been vouchsafed; and that, as in the vision of St. John in Patmos, voices were mingled with scenes, and the ear as certainly addressed as the eye. A "great darkness" first falls upon the prophet, like that which in an earlier age fell upon Abraham, but without the "horror"; and, as the Divine Spirit moves on the face of the wildly-troubled waters, as a visible aurora enveloped by the pitchy cloud, the great doctrine is orally enunciated, that "in the beginning God created the heavens and the earth." Unreckoned ages, condensed in the vision into a few brief moments, pass away; the creative voice is again heard, "Let there be light," and straightway a gray diffused light springs up in the east, and, casting its sickly gleam over a cloud-limited expanse of steaming vaporous sea, journeys through the heavens towards

the west. One heavy, sunless day is made the representative of myriads; the faint light waxes fainter—it sinks beneath the dim undefined horizon; the first scene of the drama closes upon the seer; and he sits awhile on his hill-top in darkness, solitary but not sad, in what seems to be a calm and starless night.

The light again brightens—it is day; and over an expanse of ocean without visible bound the horizon has become wider and sharper of outline than before. There is life in that great sea—invertebrate, mayhap also ichthyic life; but, from the comparative distance of the point of view occupied by the prophet, only the slow roll of its waves can be discerned, as they rise and fall in long undulations before a gentle gale; and what most strongly impresses the eye is the change which has taken place in the atmospheric scenery. That lower stratum of the heavens occupied in the previous vision by seething steam, or gray, smoke-like fog, is clear and transparent; and only in an upper region, where the previously invisible vapour of the tepid sea has thickened in the cold, do the clouds appear. But there, in the higher strata of the atmosphere, they lie, thick and manifold—an upper sea of great waves, separated from those beneath by the transparent firmament, and, like them too, impelled in rolling masses by the wind. A mighty advance has taken place in creation; but its most conspicuous optical sign is the existence of a transparent atmosphere—of a firmament stretched out over the earth, that separates the waters above from the waters below. But darkness descends for the third time upon the seer, for the evening and the morning have completed the second day.

Yet again the light rises under a canopy of cloud; but the scene has changed, and there is no longer an unbroken expanse of sea. The white surf breaks, at the distant

horizon, on an insulated reef, formed mayhap by the Silurian or Old Red coral zoophytes ages before, during the bygone yesterday;<sup>1</sup> and beats in long lines of foam, nearer at hand, against a low, winding shore, the seaward barrier of a widely-spread country. For at the Divine command the land has arisen from the deep—not inconspicuously and in scattered islets, as at an earlier time, but in extensive though flat and marshy continents, little raised over the sea-level; and a yet further fiat has covered them with the great Carboniferous flora. The scene is one of mighty forests of cone-bearing trees—of palms, and tree-ferns, and gigantic club-mosses, on the opener slopes, and of great reeds clustering by the sides of quiet lakes and dark rolling rivers. There is deep gloom in the recesses of the thicker woods, and low thick mists creep along the dark marsh or sluggish stream. But there is a general lightening of the sky over-head: as the day declines, a redder flush than had hitherto lighted up the prospect falls athwart fern-covered bank and long withdrawing glade. And while the fourth evening had fallen on the prophet, he becomes sensible, as it wears on and the fourth dawn approaches, that yet another change had taken place. The Creator has spoken, and the stars look out from openings of deep unclouded blue; and as the day rises, and the planet of morning pales in the east, the broken cloudlets are transformed from bronze into gold, and anon the gold becomes fire, and at length the glorious sun arises out of the sea, and enters on his course rejoicing. It is a brilliant day; the waves, of a deeper and softer blue than before, dance and sparkle in the light; the earth, with little else to attract the gaze, has assumed a garb of brighter green; and as the sun declines amid even greater glories than those which had encircled his rising, the

<sup>1</sup> Earliest known fishes and land plants also of Silurian "yesterday."



moon appears full-orbed in the east—to the human eye the second great luminary of the heavens—and climbs slowly to the zenith as night advances, shedding its mild radiance on land and sea.

Again the day breaks; the prospect consists, as before, of land and ocean. There are great pine woods, reed-covered swamps, wide plains, winding rivers, and broad lakes; and a bright sun shines over all. But the landscape derives its interest and novelty from a feature unmarked before. Gigantic birds<sup>1</sup> stalk along the sands, or wade far into the water in quest of their ichthyic food; while birds of lesser size float upon the lakes, or scream discordant in hovering flocks, thick as insects in the calm of a summer evening, over the narrower seas, or brighten with the sunlit gleam of their wings the thick woods. And ocean has its monsters: great “*tanninim*” tempest the deep, as they heave their huge bulk over the surface, to inhale the life-sustaining air; and out of their nostrils goeth smoke, as out of a “seething pot or cauldron.” Monstrous creatures, armed in massive scales, haunt the rivers, or scour the flat rank meadows; earth, air, and water are charged with animal life; and the sun sets on a busy scene, in which unerring instinct pursues unremittingly its few simple ends—the support and preservation of the individual, the propagation of the species, and the protection and maintenance of the young.

Again the night descends, for the fifth day has closed, and morning breaks on the sixth and last day of creation. Cattle and beasts of the field<sup>2</sup> graze on the plains; the thick-skinned rhinoceros wallows in the marshes; the squat hippopotamus rustles among the reeds, or plunges sullenly into

<sup>1</sup> But see note 2 on p. 324.

<sup>2</sup> Land animals, in fact, had existed in the Trias, a “day” or so before. But Miller arbitrarily selects only predominant forms of life.



the river; great herds of elephants seek their food amid the young herbage of the woods; while animals of fiercer nature—the lion, the leopard, and the bear—harbour in deep caves till the evening, or lie in wait for their prey amid tangled thickets, or beneath some broken bank. At length, as the day wanes and the shadows lengthen, man, the responsible lord of creation formed in God's own image, is introduced upon the scene, and the work of creation ceases for ever upon the earth. The night falls once more upon the prospect, and there dawns yet another morrow—the morrow of God's rest—that Divine Sabbath in which there is no more creative labour, and which, "blessed and sanctified" beyond all the days that had gone before, has as its special object the moral elevation and final redemption of man. And over *it* no evening is represented in the record as falling, for its special work is not yet complete. Such seems to have been the sublime panorama of creation exhibited in the vision of old to

"The shepherd who first taught the chosen seed,  
In the beginning how the heavens and earth  
Rose out of chaos;"

and, rightly understood, I know not a single scientific truth that militates against even the minutest or least prominent of its details.—(*The Testimony of the Rocks.*)

---

## XXXVII

## THE

## ARCHITECT OF THE SCOTT MONUMENT

[Miller's leading articles, of which this is an example, were carefully composed, elaborate productions, such as were possible in a bi-weekly newspaper, and natural to a well-stored, philosophic mind. Mr. Croall, in his journalistic reminiscences, describes his method as follows: "The MS., when put into the hands of the compositor, had evidently been subjected to a good deal of correction in the shape of re-writing and erasion, but this was a mere bagatelle in comparison to the revised proof after being put into type. Whole sentences were re-written, and others so twisted outside-in that they bore but a faint resemblance to the original structure. On a second revise there was an improvement, so far as the number of corrections were concerned, but still so many that a third, and very often a fourth, proof was needed before the fastidious writer could allow his lucubration to see the light. It was not till the ear as well as the mind had been satisfied that the readers of the *Witness* were permitted to peruse what had been so laboriously prepared for them. The exquisitely-turned sentences were finally subjected to a *viva voce* reading by the editor." Mr. G. R. Mickle Kemp was accidentally drowned on 6th March, 1844.]

THE funeral of this hapless man of genius took place yesterday, and excited a deep and very general interest, in which there mingled the natural sorrow for high talent prematurely extinguished, with the feeling of painful regret awakened by a peculiarly melancholy end. It was numerously attended, and by many distinguished men. The several streets through which it passed were crowded by saddened spectators—in some few localities very densely; and the windows overhead

were much thronged. At no place was the crowd greater, except perhaps immediately surrounding the burying-ground, than at the fatal opening beside the Canal Basin, into which the unfortunate man had turned from the direct road in the darkness of night, and had found death at its termination. The scene of the accident is a gloomy and singularly unpleasant spot. A high wall, perforated by a low, clumsy archway, closes abruptly what the stranger might deem a thoroughfare. There is a piece of sluggish, stagnant water on the one hand, thick and turbid, and somewhat resembling in form and colour a broad muddy highway, lined by low walls; not a tuft of vegetation is to be seen on its tame rectilinear sides: all is slimy and brown, with here and there dank, muddy recesses, as if for the frog and the rat; while on the damp flat above there lie, somewhat in the style of the grouping in a Dutch painting, the rotting fragments of canal passage-boats and coal-barges, with here and there some broken-backed hulk, muddy and green, the timbers peeping out through the planking, and all around heaps of the nameless lumber of a deserted boat-yard. The low, clumsy archway is wholly occupied by a narrow branch of the canal—brown and clay-like as the main trunk, from which it strikes off at nearly right angles. It struck us forcibly, in examining the place, that in the uncertain light of midnight, the flat, dead water must have resembled an ordinary cart road, leading through the arched opening in the direction of the unfortunate architect's dwelling; and certainly at this spot, just where he might be supposed to have stepped upon the seeming road under the fatal impression, was the body found.

It had been intended, as the funeral letters bore, to inter the body of Mr. Kemp in the vault under the Scott Monument—a structure which, erected to do honour to the genius

of one illustrious Scotsman, will be long recognised as a proud trophy of the fine taste and vigorous talent of another. The arrangement was not without precedent; and had it been possible for Sir Walter to have anticipated it, we do not think it would have greatly displeased him. The Egyptian architect inscribed the name of his kingly master on but the plaster of the pyramid, while he engraved his own on the enduring granite underneath; and so the name of the king has been lost, and only that of the architect has survived. And there are, no doubt, monuments in our own country which have been transferred in some sort, and on a somewhat similar principle, from their original object. There are fine statues which reflect honour on but the sculptor that chiselled them, and tombs and cenotaphs inscribed with names so very obscure, that they give place in effect, if not literally, like that of the Egyptian king, to the name of the architect who reared them. Had the Scott Monument been erected, like the monument of a neighbouring square, to express a perhaps not very seemly gratitude for the services of some tenth-rate statesman, who procured places for his friends, and who did not much else, it would have been perilous to convert it into the tomb of a man of genius like poor Kemp. It would have been perilous had it been the monument of some poor *litterateur*. The *litterateur's* works would have disappeared from the public eye, while that of the hapless architect would be for ever before it. And it would be thus the architect, not the *litterateur*, that would be permanently remembered. But the monument of Sir Walter was in no danger; and Sir Walter himself would have been quite aware of the fact. It would not have displeased him, that in the remote future, when all its buttresses had become lichenized and grey, and generation after generation had disappeared from around its base, the story would be told—like that connected in so

many of our older cathedrals with “prentice pillars” and “prentice aisles”—that the poor architect who had designed its exquisite arches and rich pinnacles in honour of the Shakespeare of Scotland, had met an untimely death when engaged on it, and had found under its floor an appropriate grave.

The intention, however, was not carried into effect. It had been intimated in the funeral letters that the burial procession should quit the humble dwelling of the architect—for a humble dwelling it is—at half-past one. It had been arranged, too, that the workmen employed at the monument, one of the most respectable-looking bodies of mechanics we ever saw, should carry the corpse to the grave. They had gathered around the dwelling, a cottage at Morningside, with a wreath of ivy nodding from the wall; and the appearance of both it and them naturally suggested that the poor deceased, originally one of themselves, though he had risen, after a long struggle, into celebrity, had not risen into affluence. Death had come too soon. He had just attained his proper position—just reached the upper edge of the table-land which his genius had given him a right to occupy, and on which a competency might be soon and honourably secured—when a cruel accident struck him down. The time specified for the burial passed—first one half-hour, and then another. The assembled group wondered at the delay. And then a gentleman from the dwelling-house came to inform them that some interdict or protest, we know not what—some, we suppose, perfectly legal document—had inhibited, at this late hour, the interment of the body in the monument, and that there was a grave in the course of being prepared for it in one of the city churchyards.—(*Leading Articles.*)

---

## XXXVIII

## AN UNSPOKEN SPEECH

[The occasion and form of the following article, presenting in summary form the practical social philosophy which Miller persistently preached—self-control, diligence, mental culture, self-reliance, combined with religious faith—are thus explained. He had been attending a gathering of the Scottish Young Men's Society, and, in editorial phrase, "we found ourselves, after leaving the room, addressing them in imagination, in a few plain words. . . . Men whose words come slowly and painfully when among their fellows, can be quite fluent enough when they speak inwards without breaking silence . . . and so our short address went off glibly, without break or interruption, in the style of ordinary conversational gossip." This may be said for Miller, that he "preached" what he practised.]

"MEMBERS of the Scottish Young Men's Society," we said, "it is rather late in life for the individual who now addresses you to attempt acquiring the art of the public speaker. Those who have been most in the habit of noticing the effect of the several mechanical professions on character and intellect, divide them into two classes—the *sedentary* and the *laborious*; and they remark, that while in the *sedentary*, such as the printing, weaving, tailoring, and shoemaking trades, there are usually a considerable proportion of fluent speakers, in the *laborious* trades, on the other hand, such as those of the mason, ship-carpenter, ploughman, and blacksmith, one generally meets with but taciturn, slow-speaking men. We need scarce say in which of these schools we have been trained. You will at once see—to borrow from one of the best and most ancient of writers—that we are 'not eloquent,' but 'a man of slow speech, and of a slow tongue.' And yet we think we may venture addressing ourselves, in a few plain words, to



an association of young men united for the purpose of mutual improvement. We ought and we do sympathize with you in your object; and we congratulate you on the facilities which your members, and your library, and your residence in one of the most intellectual cities in the world, cannot fail to afford you in its pursuit. We ourselves have known what it is to prosecute in solitude, with but few books, and encompassed by many difficulties, the search after knowledge; and we have seen year after year pass by, and the obstacles in our way remaining apparently as great as at first. And were we to sum up the condensed result of our experience in two brief words of advice, it would amount simply to this, 'Never despair.' We are told of Commodore Anson—a man whose sense and courage ultimately triumphed over a series of perhaps the most appalling disasters man ever encountered, and who won for himself, by his magnanimity, sagacity, and cool resolution, the applauses of even his enemies, so that Rousseau and Voltaire eulogized him, the one in history, the other in romance—we are told, we say, of this Anson, that when raised to the British peerage, he was permitted to select his own motto, and that he chose an eminently characteristic one—'*Nil Desperandum.*' By all means let it be your motto also—not as a thing to be paraded on some heraldic label, but to be engraved upon your hearts. We wish that, amid the elegancies of this hall, we could bring up before you some of the scenes of our past life. They would form a curious panorama, and might serve to teach that in no circumstances, however apparently desperate, should men lose hope. Never forget that it is not necessary, in order to overcome gigantic difficulties, that one's strength should be gigantic. Persevering exertion is much more than strength. We owe to shovels and wheelbarrows, and human muscles of the average size and vigour, the great railway which connects the capitals of the

two kingdoms. And the difficulties which encompass the young man of humble circumstances and imperfect education, must be regarded as coming under the same category as difficulties of the purely physical kind. Interrupted or insulated efforts, however vigorous, will be found to be but of little avail. It is to the element of continuity that you must trust. There is a world of sense in Sir Walter Scott's favourite proverb, '*Time and I, gentlemen, against any two.*' But though it be unnecessary, in order to secure success, that one's efforts in the contest with gigantic difficulties should be themselves gigantic, it is essentially necessary that they should employ one's whole strength. Half efforts never accomplish anything. 'No man ever did anything well,' says Johnson, 'to which he did not apply the whole bent of his mind.' And unless a man keep his head cool, and his faculties undissipated, he need not expect that his efforts can ever be other than half efforts, or other than of a desultory, fitful, non-productive kind. We do not stand here in the character of a modern Rechabite. But this we must say: Let no young man ever beguile himself with the hope that he is to make a figure in society, or rise in the world, unless, as the apostle expresses it, he be 'temperate in all things.' Scotland has produced not a few distinguished men who were unfortunately *not* temperate; but it is well known that of one of the greatest of them all—perhaps one of the most vigorous-minded men our country ever produced—the intemperate habits were not formed early. Robert Burns, up till his twenty-sixth year, when he had mastered all his powers, and produced some of his finest poems, was an eminently sober man. Climbing requires not only a steady foot, but a strong head; and we question whether any one ever climbed the perilous steep, where, according to Beattie, 'Fame's proud temple shines afar,' who did not keep his head cool during the process. So

far as our own experience goes, we can truly state, that though we have known not a few working men, possessed some of them of strong intellects, and some of them of fine taste, and even of genius, not one have we ever known who rose either to eminence or a competency under early formed habits of intemperance. These indeed are the difficulties that cannot be surmounted, and the only ones. Rather more than thirty years ago, the drinking usages of the country were more numerous than they are now. In the mechanical profession in which we laboured they were many: when a foundation was laid, the workmen were treated to drink; they were treated to drink when the walls were levelled; they were treated to drink when the building was finished; they were treated to drink when an apprentice joined the squad; treated to drink when his apron was washed; treated to drink when his 'time was out;' and occasionally they learned to treat one another to drink. At the first house upon which we were engaged as a slim apprentice boy, the workmen had a royal founding-pint, and two whole glasses of whisky came to our share. A full-grown man might not deem a gill of usquebhae an over-dose, but it was too much for a boy unaccustomed to strong drink; and when the party broke up, and we got home to our few books—few, but good, and which we had learned at even an earlier period to pore over with delight—we found, as we opened the page of a favourite author, the letters dancing before our eyes, and that we could no longer master his sense. The state was perhaps a not very favourable one for forming a resolution in, but we believe the effort served to sober us. We determined in that hour that never more would we sacrifice our capacity of intellectual enjoyment to a drinking usage; and during the fifteen years which we spent as an operative mason, we held, through God's help, by the determination. We are not sure whether,

save for that determination, we would have had the honour of a place on this platform to-night. But there are other kinds of intoxication than that which it is the nature of strong drink or of drugs to produce. Bacon speaks of a 'natural drunkenness.' And the hallucinations of this natural drunkenness must be avoided if you would prosper. Let us specify one of these. Never let yourselves be beguiled by the idea that fate has misplaced you in life, and that were you in some other sphere you would rise. It is true that some men *are* greatly misplaced; but to brood over the idea is not the best way of getting the necessary exchange effected. It is not the way at all. Often the best policy in the case is just to forget the misplacement. We remember once deeming ourselves misplaced, when, in a season of bad health and consequent despondency, we had to work among labourers in a quarry. But the feeling soon passed, and we set ourselves carefully to examine the quarry. Cowper describes a prisoner of the Bastile beguiling his weary hours by counting the nail-studs on the door of his cell, upwards, downwards, and across—

‘ Wearing out time in numbering to and fro,  
The studs that thick emboss his iron door;  
Then downward and then upwards, then aslant  
And then alternate; with a sickly hope  
By dint of change to give his tasteless task  
Some relish; till, the sum exactly found  
In all directions, he begins again.’

It was idle work; for to reckon up the door-studs never so often was not the way of opening up the door. But in carefully examining and recording for our own use the appearances of the stony bars of our prison, we were greatly more profitably employed. Nay, we had stumbled on one of the best possible modes of escaping from our prison. We were in reality getting hold of its bolts and its stancheons, and converting

them into tools in the work of breaking out. We remember once passing a whole season in one of the dreariest districts of the north-western Highlands—a district included in that unhappy tract of country, doomed, we fear, to poverty and suffering, which we find marked in the rain-map of Europe with a double shade of blackness. We had hard work, and often soaking rain, during the day; and at night our damp fuel filled the turf hut in which we sheltered with suffocating smoke, and afforded no light by which to read. Nor—even ere the year got into its wane, and when in the long evenings we *had* light—had we any books to read by it, or a single literary or scientific friend with whom to exchange an idea. We remember at another time living in an agricultural district in the low country, in a hovel that was open along the ridge of the roof from gable to gable, so that as we lay a-bed we could tell the hours of the night by the stars that were passing overhead across the chasm. There were about half-a-dozen farm-servants, victims to the bothie system, that ate and slept in the same place; and often, long after midnight, a disreputable poacher used to come stealthily in, and fling himself down on a lair of straw that he had prepared for himself in a corner. Now, both the Highland hut and the Lowland hovel, with their accompaniments of protracted and uncongenial labour, might be regarded as dreary prisons; and yet we find them to be in reality useful schools, very necessary to our education. And now, when we hear about the state of the Highlands, and the character of our poor Highlanders, and of the influence of the bothie system and of the game-laws, we feel that we know considerably more about such matters than if our experience had been of a more limited or more pleasant kind. There are few such prisons in which a young man of energy and a brave heart can be placed, in which he will not gain more by taking kindly to his work,



and looking well about him, than by wasting himself in convulsive endeavours to escape. If he but learn to think of his prison as a school, there is good hope of his ultimately getting out of it. Were a butcher's boy to ask us—you will not deem the illustration too low, for you will remember that Henry Kirk White was once a butcher's boy—were he to ask us how we thought he could best escape from his miserable employment, we would at once say, You have rare opportunities of observation; you may be a butcher's boy in body, but in mind you may become an adept in one of the profoundest of the sciences, that of comparative anatomy;—think of yourself as not in a prison, but in a school, and there is no fear but you will rise. There is another delusion of that 'natural drunkenness' referred to, against which you must also be warned. Never sacrifice your independence to a phantom. We have seen young men utterly ruin themselves through the vain belief that they were too good for their work. They were mostly lads of a literary turn, who had got a knack of versifying, and who, in the fond belief that they were poets and men of genius, and that poets and men of genius should be above the toil and drudgery of mechanical labour, gave up the profession by which they had lived, poorly mayhap, but independently, and got none other to set in its place. A mistake of this character is always a fatal one; and we trust all of you will ever remember, that though a man may think himself above his work, no man *is*, or no man ought to think himself, above the high dignity of being independent. In truth, he is but a sorry, weak fellow who measures himself by the conventional status of the labour by which he lives. Our great poet formed a correct estimate:

‘What though on hamely fare we dine,  
Wear hodden grey, and a' that?  
Gie fools their silks, and knaves their wine,  
A man's a man for a' that.’



There is another advice which we would fain give you, though it may be regarded as of a somewhat equivocal kind : Rely upon yourselves. The man who sets his hopes upon patronage, or the exertions of others in his behalf, is never so respectable a man, and, save in very occasional instances, rarely so *lucky* a man, as he who bends his exertions to compel fortune in his behalf, by making himself worthy of her favours. Some of the greatest wrecks we have seen in life have been those of waiters on patronage ; and the greatest discontents which we have seen in corporations, churches, and states, have arisen from the exercise of patronage. Shakespeare tell us, in his exquisite vein, of a virtue that is twice blessed—blessed in those who give, and blessed in those who receive. Patronage is twice cursed—cursed in the incompetency which it places where merit ought to be, and in the incompetency which it creates among the class which make it their trust. But the curse which you have mainly to avoid is that which so often falls on those who waste their time and suffer their energies to evaporate in weakly and obsequiously waiting upon it. We therefore say, Rely upon yourselves. But there is One other on whom you must rely ; and implicit reliance on Him, instead of inducing weakness, infinitely increases strength. Bacon has well said, that a dog is brave and generous when he believes himself backed by his master, but timid and crouching, especially in a strange place, when he is alone and his master away. And a human master, says the philosopher, is as a god to the dog. It certainly does inspire a man with strength to believe that his great Master is behind him, invigorating him in his struggles, and protecting him against every danger. But we must not trespass on your time. With regard to the conduct of your studies, we simply say, Strive to be catholic in your tastes. Some of you will have a leaning to science, some to literature. To the one class we would

say, Your literature will be all the more solid if you can get a vein of true science to run through it; and to the other, Your science will be all the more fascinating if you temper and garnish it with literature. In truth, almost all the greater subjects of man's contemplation belong to both fields. Of subjects such as astronomy and geology, for instance, the poetry is as sublime as the science is profound. As a pretty general rule, you will perhaps find literature most engaging in youth, and science as you grow in years. But faculties for both have been given you by the great Taskmaster, and it is your bounden duty that these be exercised aright. And so let us urge you, in conclusion, in the words of Coleridge:

‘ Therefore to go and join head, heart, and hand,  
Active and firm to fight the bloodless fight  
Of science, freedom, and the truth in Christ.’ ”

—(*Leading Articles.*)



# INDEX.

- Agassiz, 128, 131, 134, 135, 248, 250, 251.  
*Amblypterus*, 277.  
 Ammonite, 273, 290, 294, 295.  
*Amphitherium*, 289.  
 Amygdaloid, 172, 269.  
 Anderson, Dr., 163.  
*Archegosaurus*, 248, 249.  
 Arran, 316.  
 Arthur's Seat, 237, 257, 280, 282, 300.  
*Asterolepidæ*, 133, 275.  
 Auchterarder, 139.  
 Bass, the, 270, 272 *et seq.*  
 Basalt, 7, 269.  
 Belemnite, 290, 294.  
 Berkeley, Bishop, 230.  
*Bhodry-more*, 19, 20, 21.  
 Black Isle, 116.  
 Bolingbroke, 143, 144, 147.  
*Bos Longifrons*, 326, 328.  
*Bos Primigenius*, 326.  
 Brachiopods, 245, 254, 273, 278, 279.  
 Brahan, 8.  
 Brewster, Sir David, 163.  
 Brown, Thomas, 220.  
 Buckland, Dr., 242.  
 Calamite, 241.  
 Caledonian Valley, 113, 124, 126, 298.  
 Candlish, Dr. Robert, 156 *et seq.*  
 Carboniferous Period (*see also* Coal Measures), 13, 114, 236, 332.  
 Carboniferous Limestone, 278, 280.  
 Carruthers, Mr., 13.  
*Cephalaspis*, 131.  
 Cephalopods, 245.  
*Cetiosaurus*, 291, 324.  
 Chalk, the, 177.  
 Chalmers, Dr. Thomas, 154 *et seq.*, 163 *et seq.*, 181, 233.  
 Chambers, Robert, 267, 319.  
*Cheiracanthus*, 123, 124, 275.  
*Cheirotherium*, 248, 249.  
 Church of Scotland (National), 60, 139, (Established) 140 *et seq.*  
 Coal Measures, 187, 218, 236 *et seq.*, 279, 280, 281, 284.  
*Coccosteus*, 123, 275.  
 Cook, Dr. George, 148 *et seq.*  
 Court-hill, the, 49.  
 Cromarty, bank in, 139; bay of, 6, 14, 23, 29, 126; beds of, 115; burghers of, 73; castle of, 44 *et seq.*; hill of, 113; politicians of, 64; school of, 51, 63; sections of, 116; town of, 1, 20, 22, 30, 39 *et seq.*, 69, 75, 90, 92, 118, 128, 136, 240, 287, 306, 312, 313.  
 Cova-green, 23.  
 Crinoidea, 255, 276, 277.  
 Culloden, 72, 111 *et seq.*  
 Cuvier, 132.  
 Deed of Demission, 159.  
 Devonian System, 114, 116, 129.  
 Dingwall, 7, 313.  
*Diplacanthus*, 124.  
*Diplopterus*, 124, 253.  
 Dreminorie, 240.  
 Duncan, Admiral, 72, 106.  
 Dunskaith, 35.  
 Eathie, 95 *et seq.*, 117, 287 *et seq.*  
 Eigg, 166, 171, 173 *et seq.*  
*Elephas primigenius*, 325.  
 Episcopacy, 52.  
*Equisetaceæ*, 240, 243.  
 Established Church, *see* Church of Scotland.  
 Evangelicals, 140, 149, 159 *et seq.*  
 Fairburn, 8.  
 Fairies, 97 *et seq.*  
 Fasten's-Eve, 60.  
*Favularia*, 279.  
*Fenestrella*, 255.

*First Impressions of England*, 185.  
*Footprints of the Creator*, 226.  
 "Forty," the, 165.  
 Free Church, 159, 166.

Gallow-hill, 49.  
 Glacial Period, *see* Ice Age.  
*Glyptolepis*, 225.  
 Gneiss, 6.  
*Goniatite*, 254, 277.  
 "Good-people," the, 99.  
 Graptolites, 274.  
 Grauwacke, 245, 273, 274, 276, 280.  
 Green Lady, 42.  
 Guillian, 14, 15, 18, 19.  
 Gulf Stream, 298.  
*Gyracanthus*, 277.

Hornblend, 6.  
*Holoptychius*, 177, 252, 253, 275.  
 Hugh Miller, Junior, 115.  
*Hyperstenes*, 7.

Ice Age, 297 *et seq.*, 310.  
*Ichthyosaurus*, 177, 290, 324.  
*Iguanodon*, 389-324.  
 Invergordon Ferry, 303.  
*Inverness Courier*, *The*, 13, 14.  
 Inverness, 48, 113, 125.

Johnson, Samuel, 198, 200.  
 Jurassic System, 287.  
 Jugs, 42.

Kemp, Mr., 336 *et seq.*  
 Kinbeakie Cottage, 47.  
 Knockfarrel, 8.  
 Knox, John, 57, 59, 143, 150, 183.  
 Kyle Akin, 167 *et seq.*

*Labyrinthodontia*, 248.  
*Lake Orcadie*, 115.  
 Lamarck, 130, 227.  
 La Place, 226 *et seq.*  
*Lepidodendron*, 241, 261, 323.  
*Lepidosteus*, 250, 251, 252, 253.  
 Lias, 6, 117, 118, 123, 125, 129,  
 177, 256, 297 *et seq.*  
 Locke, 220.  
*Lycopodiaceae*, 243, 276.  
 Lyell, Sir Charles, 248, 250, 317.

Malcolmson, Dr., 123.  
 Maillet, 227.  
*Megalichthys*, 177, 252, 253, 277.  
*Megalosaurus*, 324.  
 Micaceous schist, 7.  
 Moderates, Moderatism, 142, 148,  
 149, 150, 153, 160 *et seq.*, 168.  
 Munloch, Bay of, 125.  
 Murchison, Sir Roderick, 115, 128,  
 131, 242, 280.  
*My Schools and Schoolmasters*, 9,  
 14, 84, 105.

National Church, *see* Church of  
 Scotland.  
*Nautilus*, *Nautilaceae*, 545, 254, 277,  
 290.  
 New Red Sandstone, 211.  
 Newton, Rev. John, 205, 208.  
 Nigg, 125.  
 Nummulites, 236,

Oken, 227.  
 Old Causeway, the, 40.  
 Old Red Conglomerate, 8, 114, 118  
*et seq.*  
 Old Red Sandstone, 2, 6, 144 *et*  
*seq.*, 129, 177, 237, 260, 273, 274,  
 275, 305, 332.  
 Oolite, 138, 177, 204, 245, 286, 287  
*et seq.*  
 Orcadian Sandstone, 116.  
 Orkney, 115, 136.  
 Orthoceratites, 254, 273, 277.  
*Osteolepis*, 123, 124.  
 Owen, Professor, 249, 318.

Palæozoic, *see* Primary.  
 Palladio, 41, 42.  
 Patronage, 139 *et seq.*  
 People of Peace, the, 104.  
*Plesiosaurus*, 290, 323.  
*Poems of a Journeyman Mason*, 13,  
 186.  
 Porphyries, 7.  
 Primary or Palæozoic Period, 114.  
*Productus*, 278.  
 Proteus, 249.  
*Pterichthys*, 115, 123, 124, 128 *et*  
*seq.*  
*Pterodactyls*, 289.  
 Quarry, the, 2, 307.

- Radiata*, 169, 278.  
 Reformation, the, 51, 162.  
 Reid, Thomas, 162, 220 *et seq.*  
 Resolis, 48.  
 Restoration, the, 52.  
 Revolution Settlement, 161.  
 Robertson, Dr. James, 151 *et seq.*  
 Robertson, Principal, 142, 143, 183, 223.  
 Rosemarkie, 98.  
 Russel, Rev. John, *see* section "The Hard Dominie," 54.  
 Salters, 263 *et seq.*  
*Scenes and Legends*, 39, 128.  
 Secondary or Mesozoic Period, 6, 244, 245, 249, 286, 522, 323.  
 Shandwick, Bay of, 125.  
 Shenstone, William, 185 *et seq.*  
 Shrove-Tuesday, 60, 61.  
*Sigillaria*, 241, 323.  
 Silurian System, 131, 245, 260, 273, 280.  
*Spirifer*, 247, 254, 278.  
 St. Andrew's Church, 161.  
 St. Regulus, Chapel of, 73.  
 Stewart, Rev. Mr., 63.  
*Stigmara*, 241, 261.  
 Sutors, the, 14, 23, 49, 58, 117 *et seq.*  
 Tain, 71, 312.  
*Teleosaurus*, 210.  
*Terebratulæ*, 245, 276, 278, 294, 295.  
 Tertiary Period, 244, 286, 322, 325.  
*Testimony of the Rocks*, 330.  
 Throckmortons, the, 210.  
 Trap, 173, 174, 267 *et seq.*  
 Traquair, Dr., 128, 129.  
 Trias, 248.  
*Ulodendron*, 241, 243, 279.  
 Union, the, 40.  
 United Presbyterian Church, 159.  
 Unwin, Mrs., 207.  
 Urquhart, Parish of, 12.  
 Urquharts, the (of Cromarty), 43, 73.  
 Urquhart, Sir Thomas, 73 *et seq.*  
 Urquhart, William, 43.  
 Veto Act, 139.  
 Vernon, Admiral, 84, 90.  
*Vestiges of Creation*, 226.  
 Williamson, Robert, 43.  
 Witches' Hole, the, 49, 50.  
*Witness, The*, 139, 156, 166.  
 Zoophytes, 169, 278, 332.







